

81-7

# F R I N K REFLECTORS

AND

LIGHTING SPECIALTIES

FOR

## S T O R E S

ESTABLISHED

— 1857 —



*"The Sign of Quality"*

CATALOG  
No. 424

I. P. FRINK, INC.

24th ST. and 10th AVE.

NEW YORK

WRIGLEY BUILDING  
Chicago

132 SECOND STREET  
San Francisco, Cal.

*Represented in all principal  
cities in U. S. and Canada*

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CCA

AUG 26 '28

# FRINK REFLECTORS

Established 1857

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The reflectors illustrated herein are covered  
by patents issued

July 27, 1915; June 15, 1909;  
July 13, 1915; June 8, 1909;  
Aug. 18, 1914; Jan. 5, 1909;  
April 25, 1911; May 26, 1908;  
July 27, 1909; Sept. 25, 1906;  
July 13, 1909;

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I. P. F R I N K  
INCORPORATED

24th St. and 10th Ave. NEW YORK

# Frink Lighting Service for Stores

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Among the most notable advances recorded in store merchandizing during the past ten years is the increased attractiveness of the store itself. Entrances have been widened, vestibuled, and finished in appearance. Aisles have been made more spacious, counter space increased and the uniform arrangement of goods and classification of departments have met with immediate acceptance by the retail store owner.

The show window, counter and wall display cases furnish the best examples of this progress in sales promotion which has contributed so much to the selling power of the retail store.

A few years ago, the store owner did not appreciate the great value of the direct, paying, sales appeal of the windows and showcases artistically arranged and **EFFICIENTLY LIGHTED**, with the proper equipment. To-day there is lively competition in obtaining the best results from this long neglected sales promoter.

The steadily increasing and paying trade in the retail store is being secured by but a small percentage of merchants. Roughly, nine out of every ten are trailing the tenth in number of patrons and amount of profits, for the reason that the leader possesses real business ability and initiative in the display of merchandise, and its effective illumination.

In every instance it will be found that the store front which appeals to both casual passers-by and hurrying pedestrians alike, is the one with attractive and appropriate window displays, modern signs and a general appearance of prosperity.

It is an indisputable fact, recognized by leading merchants throughout the country, that people go where the merchandise is well displayed by being properly lighted, and where can be found the other personal conveniences placed at their disposal by a progressive management.

## Proper Lighting and Its Value

Correctly diffused light, *of the proper intensity*, in the store, showcases and windows not only displays the materials to the best advantage, but promotes the comfort of the prospective purchaser.

A great many merchants in attempting to solve their lighting problems have met with failure for but one reason—they have demanded volume of light rather than **QUALITY** and tonal values.

This is one of the greatest dangers to be guarded against in selecting a system of illumination. Nothing is more offensive to the eye, nor cheapening to the general appearance of the store, than bright glaring lights and the consequent deep shadows. The merchant with dazzling lights likens his store to a side-show with its sputtering arc lights and “tinsel” values.

A window, showcase or store should be free from that extreme brilliancy which is repelling to the eye and which destroys color values and creates deep shadows, as well as from that gloominess produced by inadequate illumination.

## The Control of Light

In lighting any part of a store, one of the prime requisites is the **control** of light.

Light rays, like energy of any kind, will "run wild" if not kept in their proper place. Each ray of light has its function to perform and must be properly directed to give its greatest value.

Light can be controlled and should be directed where it will give the best results. Our Lighting Experts study the conditions of your store, or plans, and recommend the system of illumination best suited to your requirements.

## The Concealed Source

In lighting a show window or display case of any kind, the object is to draw attention to the material on display—**not to the lighting equipment.**

Direct light in the line of vision is a decided distraction. It compels attention to itself above all other things. A merchant certainly would not show a customer a suit of clothes and at the same time persist in holding a bright electric lamp in front of his eyes. With a properly designed lighting system no direct ray can strike the eye. The onlooker's attention is not diverted to the source of light, but is concentrated on the display.

## A System That "Fits"

In order to secure a perfectly concealed source of light as well as perfect diffusion each installation must be individually treated.

As very few windows offer exactly the same problem, the lighting equipment should be designed and manufactured only after first determining exactly what each installation requires.

## The Frink Lighting Service

To be of the greatest value, an illuminating system must possess certain characteristics obtained only through careful study of each separate condition involved.

The show windows, counter cases, wall cases, picture galleries and general lighting must be individually correct and most effective, and yet the system as a whole must produce perfect harmony.

Frink Lighting Experts are thoroughly familiar with modern illumination, and our development of those types of units most efficient for particular locations, and our ability to recommend and install the proper lighting equipment for any condition, places us in a position to obtain for you the greatest satisfaction in illuminating your windows, cases and store.

Thousands of successful installations throughout the country vouch for Frink Lighting Service.

The services of our Engineering Department are yours for the asking. We will gladly study your problems and suggest the most practical, harmonious and efficient lighting for your store.

# Frink Standard Show Window Reflectors

Every window cannot be lighted with the same type of reflector. We have developed standard types suitable for most conditions. Our Engineering Department will be pleased to advise upon receipt of proper data, the correct type of reflector for any given window.

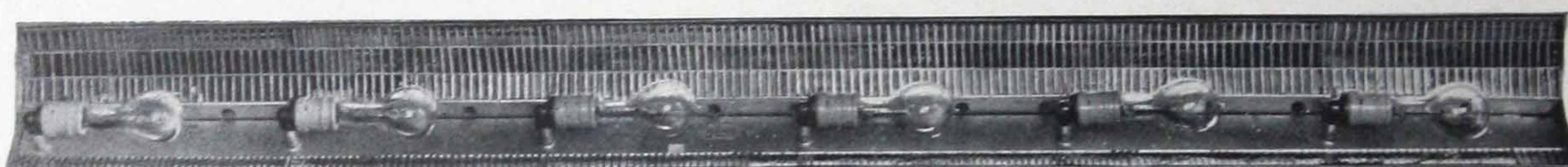
Cuts represent standard types for average window conditions. Better results, however, can be obtained by using reflectors designed to meet actual conditions. This is particularly true where it is desired to eliminate back reflection from mirrors, plain glass or polished wood panels in rear of windows, which is very important. This is accomplished by the use of a shield in the reflector design as shown in diagram page 5. To prepare the necessary special designs, we should have correct dimensions of window, exact height of woodwork, glass and mouldings, as measured from the floor line.

Reflectors can be provided with louvres and partitions to conceal lamps in right angle windows. For best results fill in data sheet provided in back of catalogue.

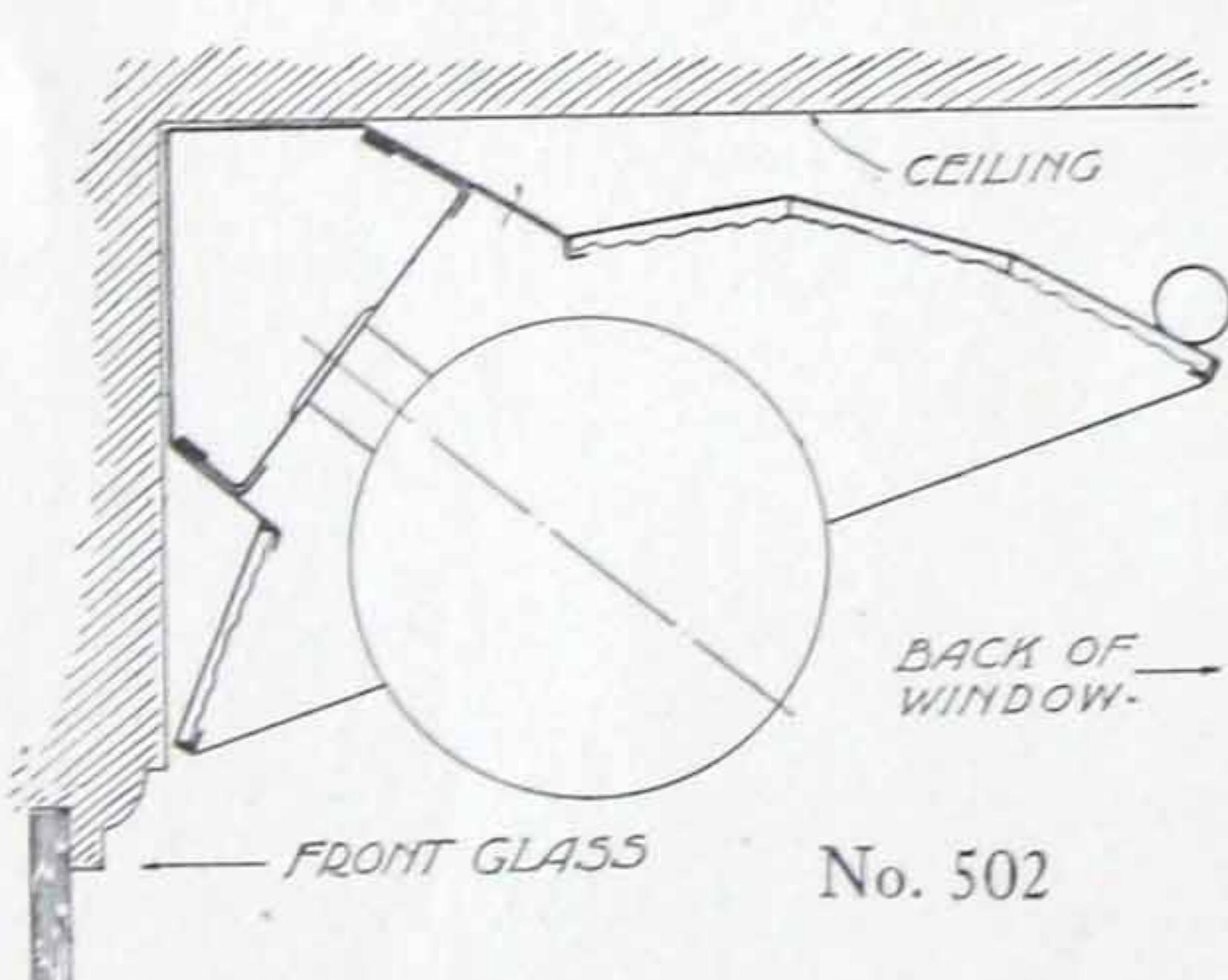
Reflectors are made continuous to run full width of window. Standard spacing of sockets 12 inches apart for 75 to 100 Watt type C lamps.

**All these reflectors have framework constructed of heavy gauge metal and are lined with our special silvered rippled glass, the most powerful reflecting surface known.**

*Prices include wiring and sockets attached, complete, ready to install except lamps*



Cut Showing Horizontal arrangement of Lamps

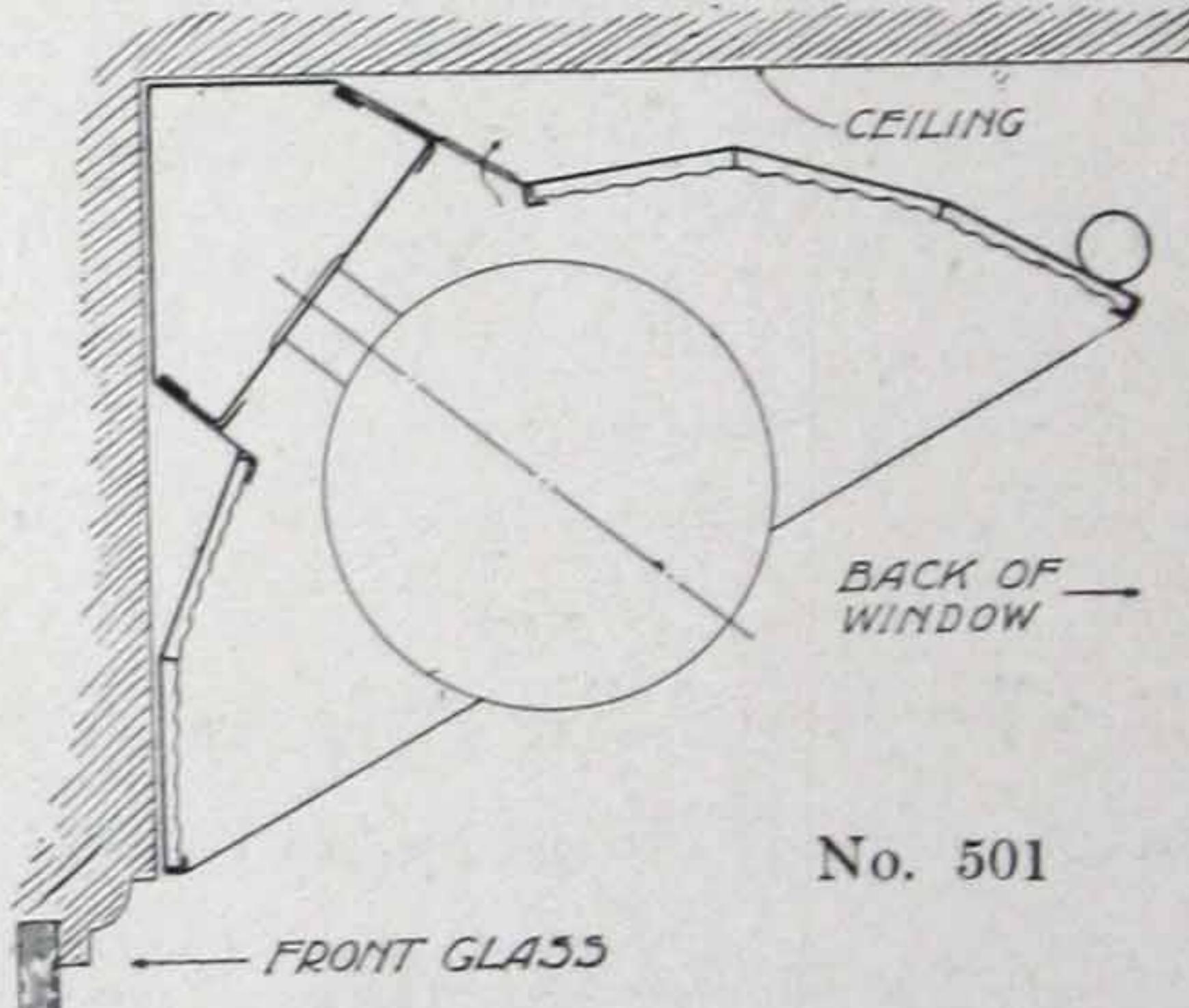


For Type C Lamps  
Horizontal Position

No. 502—For  
High Narrow  
Windows

No. 501—For  
Low Deep  
Windows

Price \$5.25 Per Ft.



Sketches show position in which reflectors should be installed

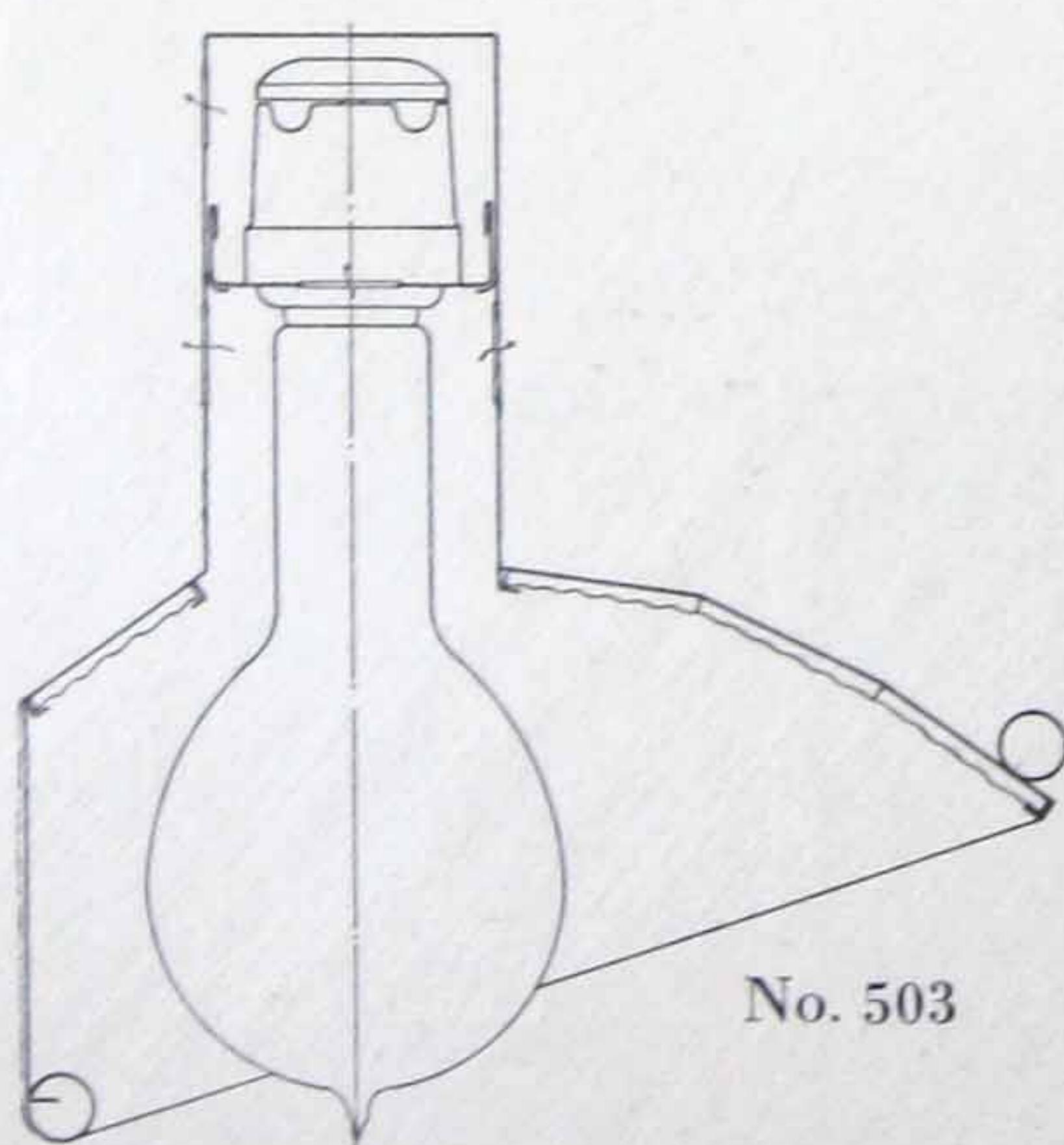
SKETCHES  $\frac{1}{4}$  FULL SIZE

For Type C Lamps Vertical Position

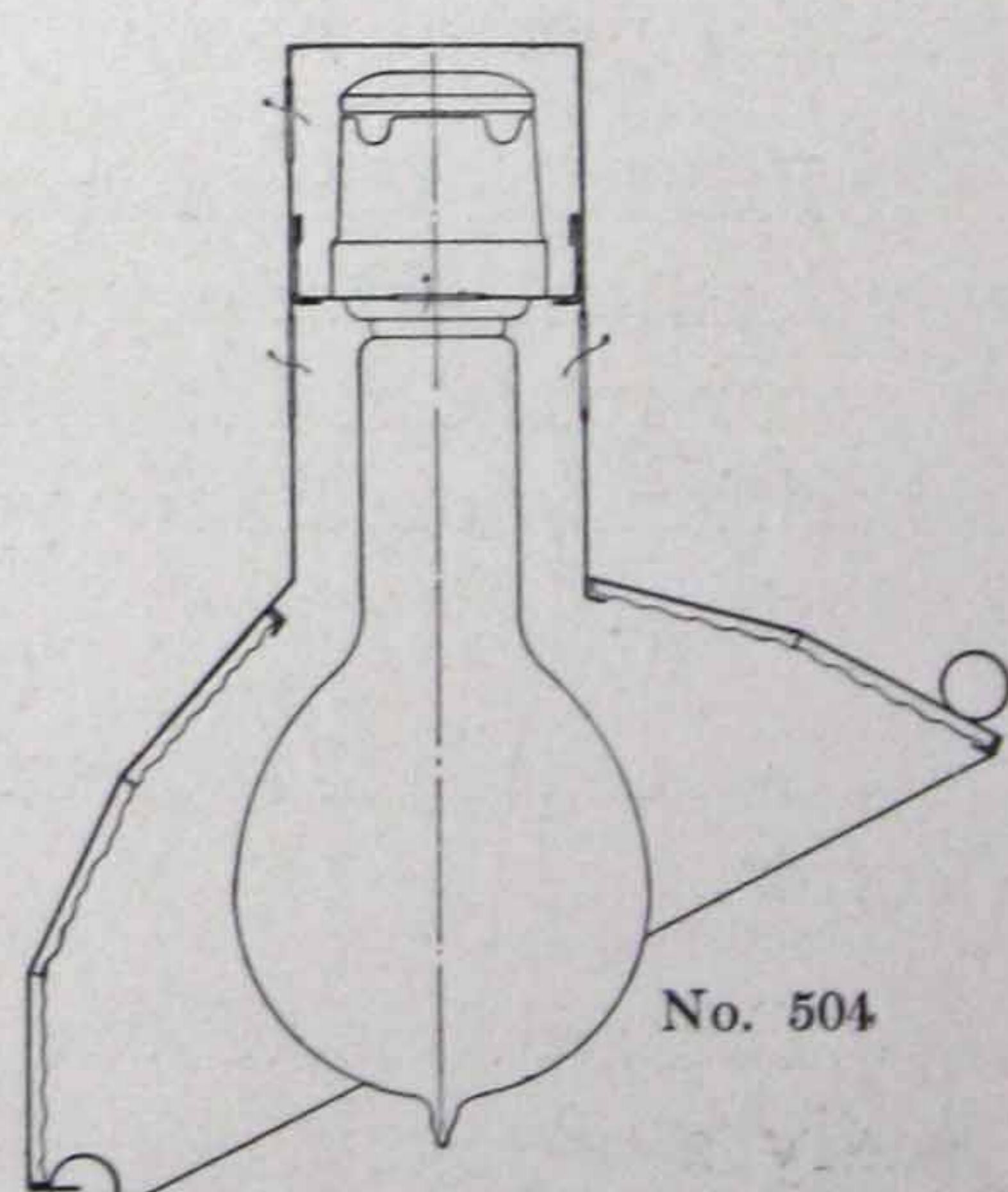
No. 503—For high  
Narrow Windows

No. 504—For Low  
Deep Windows

Price \$5.75 Per Ft.

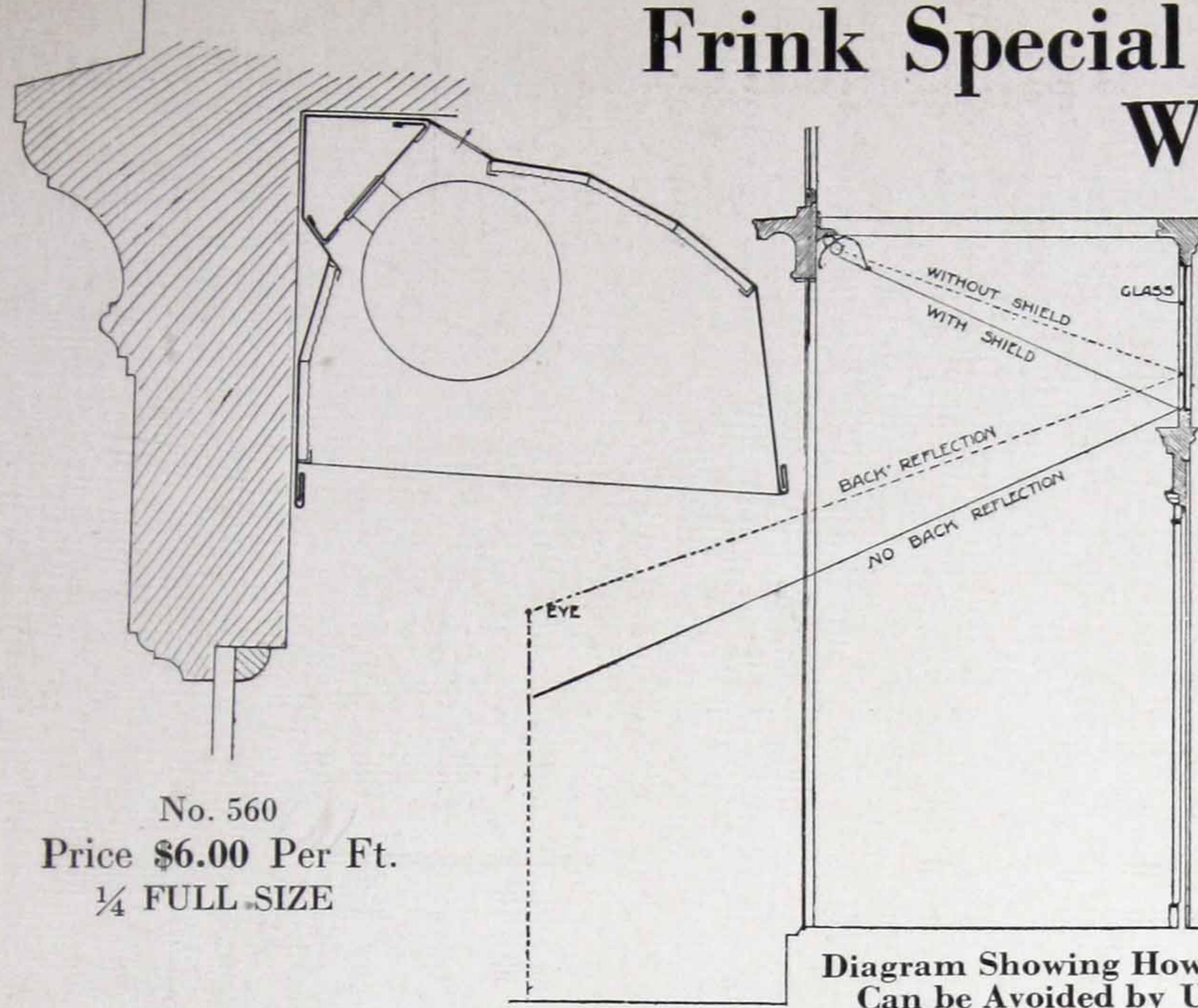


Reflectors should run continuously the full  
width of the window



*An extra charge will be made for reflectors less than four feet long*

# Frink Special Show Window Reflectors

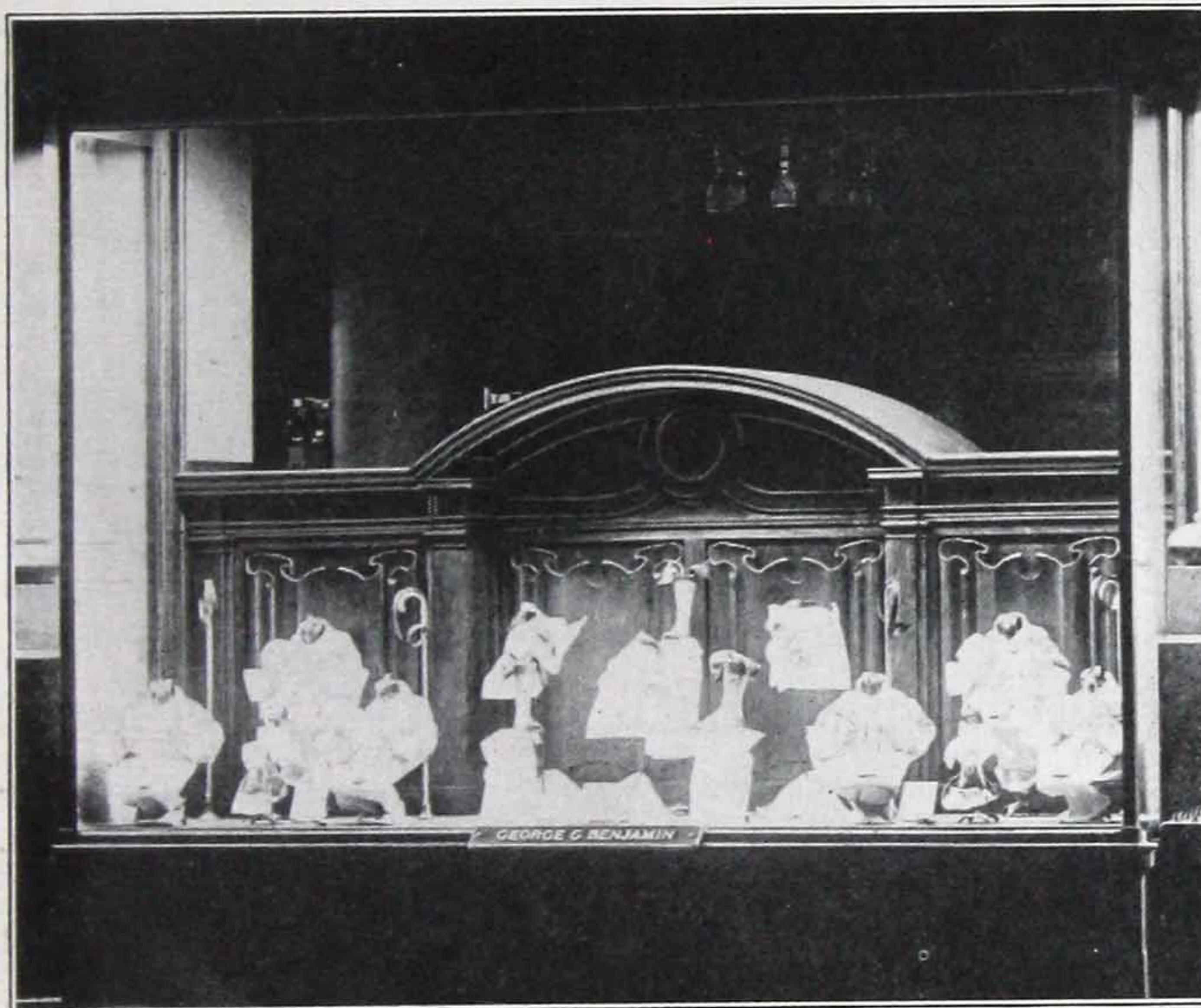


## For Windows with Open Back

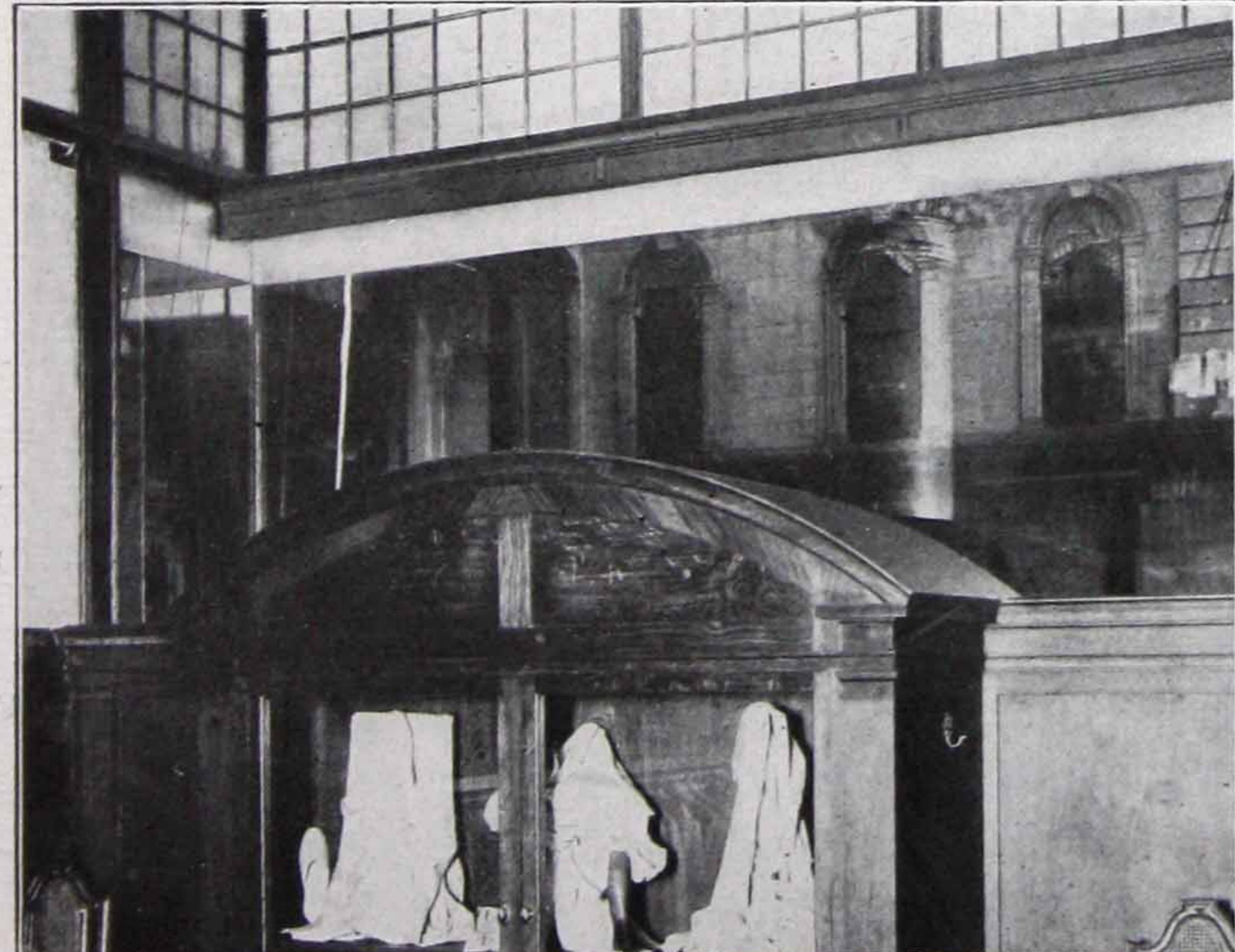
Windows with open back should have specially designed reflectors to confine the light to the window and screen the lamps from within the store. See cuts and section sketch below.

These reflectors can be made and finished to appear a part of the transom bar; a really high-class equipment that will give distinction to your windows and store. Send preliminary plans or fill in data sheet in back of catalogue for our recommendation. Made with framework of bronze or steel.

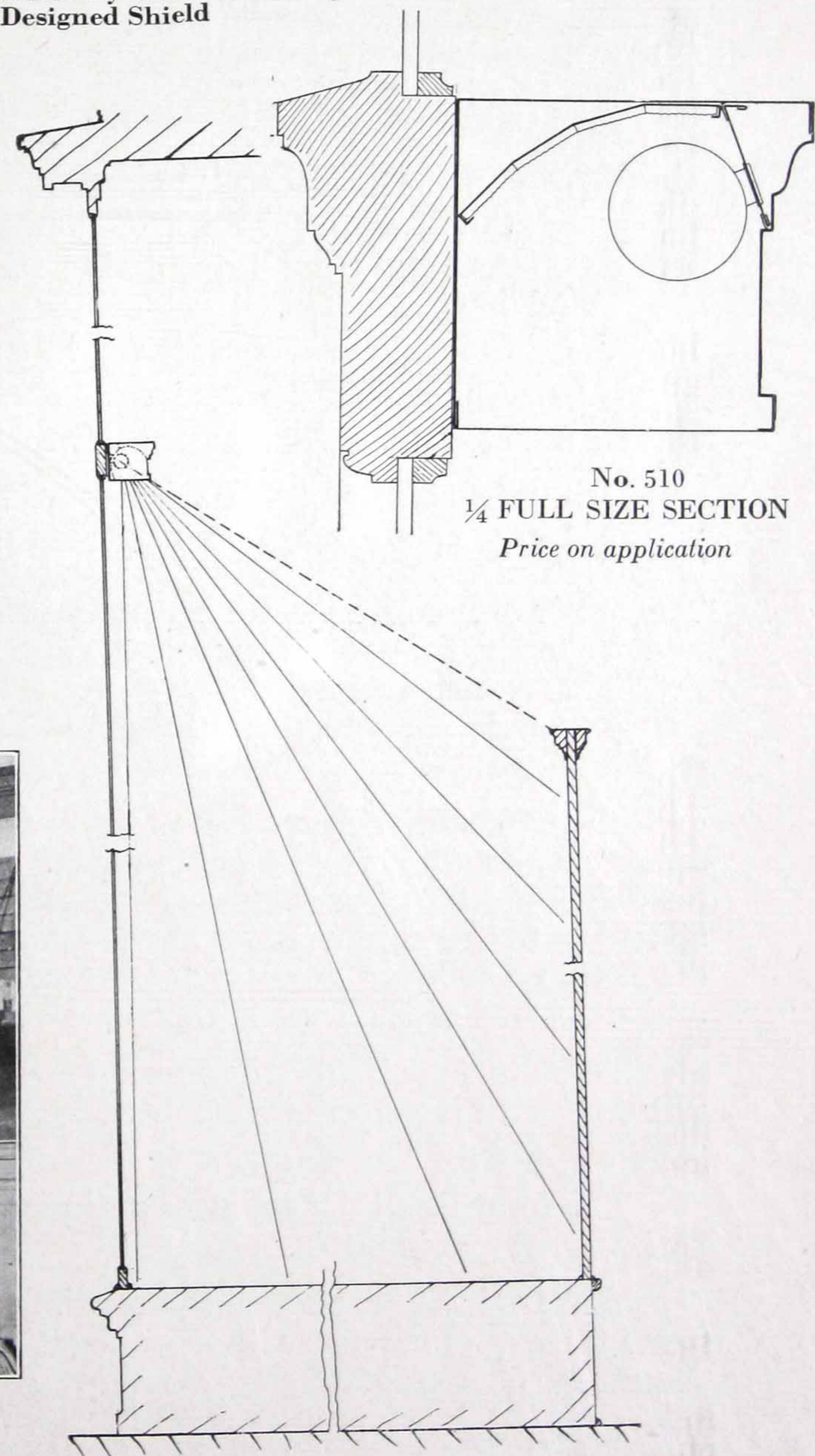
**Diagram Showing How Back Reflection  
Can be Avoided by Use of Carefully  
Designed Shield**



**View from Sidewalk**



**View from Inside of the Store  
Lamps and Reflector Concealed**



# Frink Synthetic System of Window Illumination

In the Synthetic System we secure a given color effect by intermixing other colors or by modifying the light from the lamp through the medium of color screens. Hence the name "Synthetic." There is also provided a ready means of varying the intensity and direction of the light, a feature only slightly less important than that of color control.

While all are familiar with the wonderful scenic effects obtained by the stage director, few appreciate the important part that light plays in such productions. It has been truthfully said that "Without a flexible system of lighting most of the colorful stage successes would be utterly impossible of attainment." The stage director, fully realizing this gives much of his time to the study of light and color in relation to his work. That the show window is a miniature stage is now very generally admitted, and just why the display man has failed to so treat it in the matter of lighting, is difficult to explain. Perhaps the lessons learned in stage practice have not been more generally applied to show windows because of the lack of suitable appliances.

Essentially the Synthetic System involves all that is good, in successful stage lighting, but so modified as to be adaptable to fine show window use. A complete equipment for an average window will consist of a top or border reflector and a base or foot reflector (see cut opposite page). Both reflectors are of the continuous trough type and incorporate these important features:

- A substantial metal casing or frame.
- Silvered, rippled mirror glass reflecting surface.
- A metal trough containing all line and tap wires between outlet point and lamp sockets.
- Suitable supports for the lamp sockets.
- An ingenious method of attaching the color screens.
- Natural flashed glass color screens or filters.

Using the continuous trough type of reflector permits one to change the size of lamps within the range of the reflector without disturbing the focus or distribution of light flux. This feature is inherent only to this type of reflector and its value is readily apparent. The upper or border reflector is usually of steel, painted to harmonize with its surroundings and while the foot reflector may also be had in this metal it is, because of the exposed position, frequently made of bronze. The store name may be applied in cast bronze letters to the exposed shield of the foot reflector, thereby tending to conceal the purpose of the appliance.

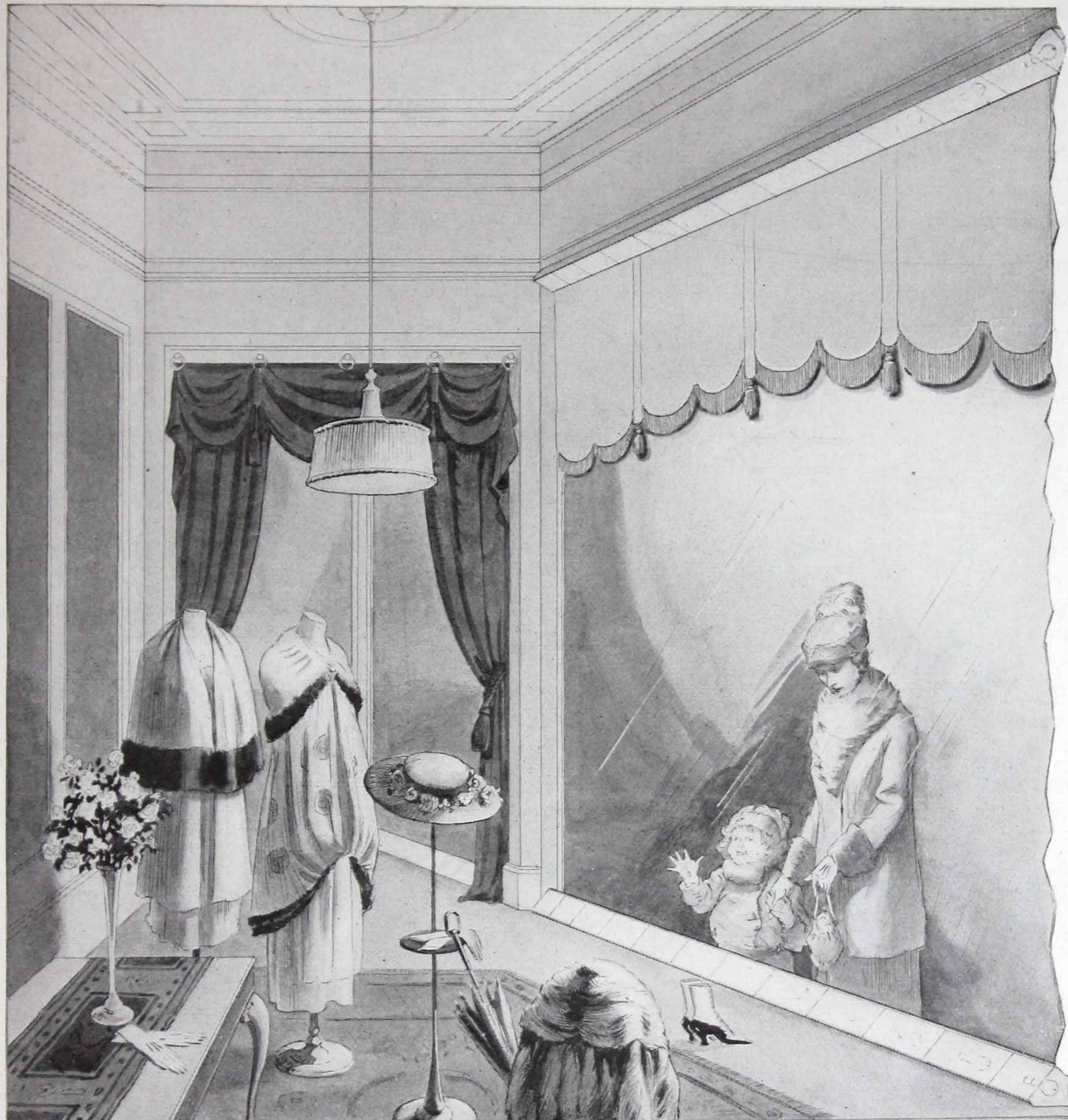
Such an equipment placed in the hands of an experienced display man enables him to secure results not heretofore obtainable. It is possible with this system for one to arrange his display as fancy or exigencies dictate and then proceed to light it in a manner exactly suited to the requirements. The natural result of such treatment is, that in a series of displays, each being handled individually, the striking features of all are brought out and the value of the exhibit thereby greatly enhanced.

To fully appreciate the merit of the synthetic system and the added advertising value that it gives to the window space, one has only to contrast such a display with the average window as now lighted.

The foregoing is but a brief outline of the Synthetic System and hardly does justice to its great possibilities.

You are invited to submit your window lighting problems to our Engineering Department for expert advice without obligation. Questions relating to this System will be cheerfully answered.

# Frink Synthetic System of Window Illumination



Reflector  
No. 562

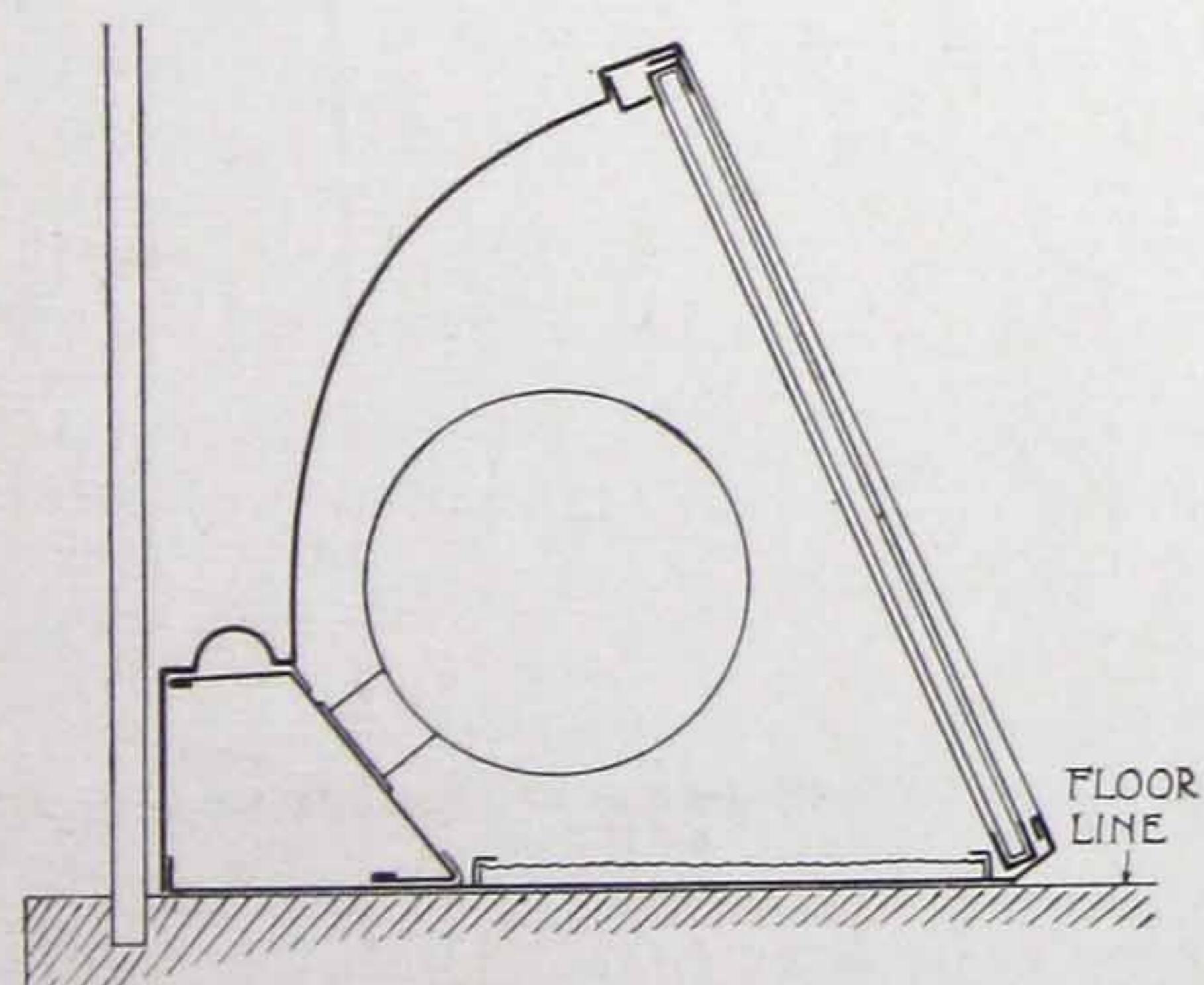
Standard  
Color  
Screens

Red  
Blue  
Green  
Amber

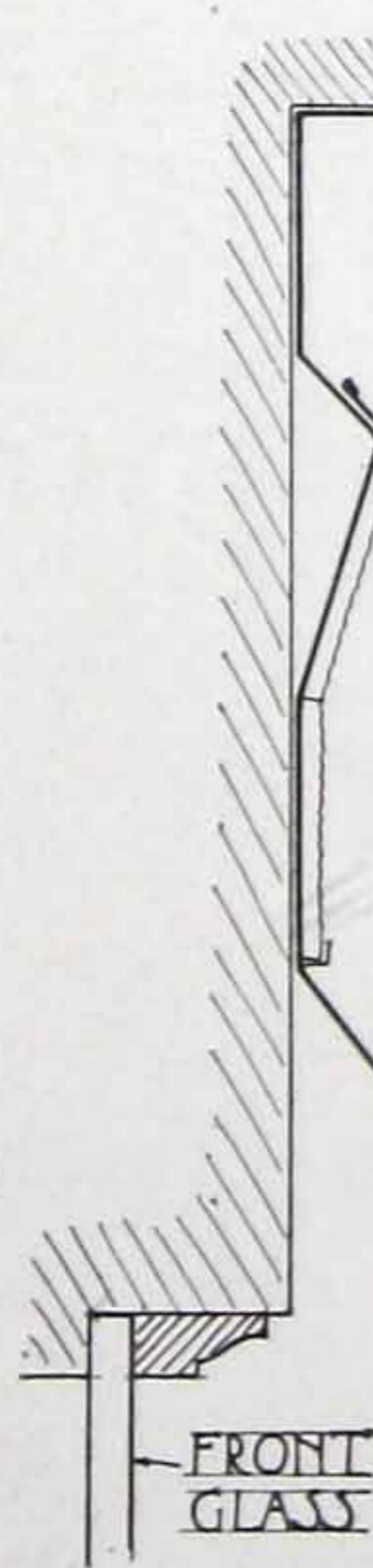
Reflector  
No. 563

Footlight reflectors made of bronze or steel, finished any color desired, can be furnished with cast bronze name plates

Cuts  $\frac{1}{4}$  Full Size

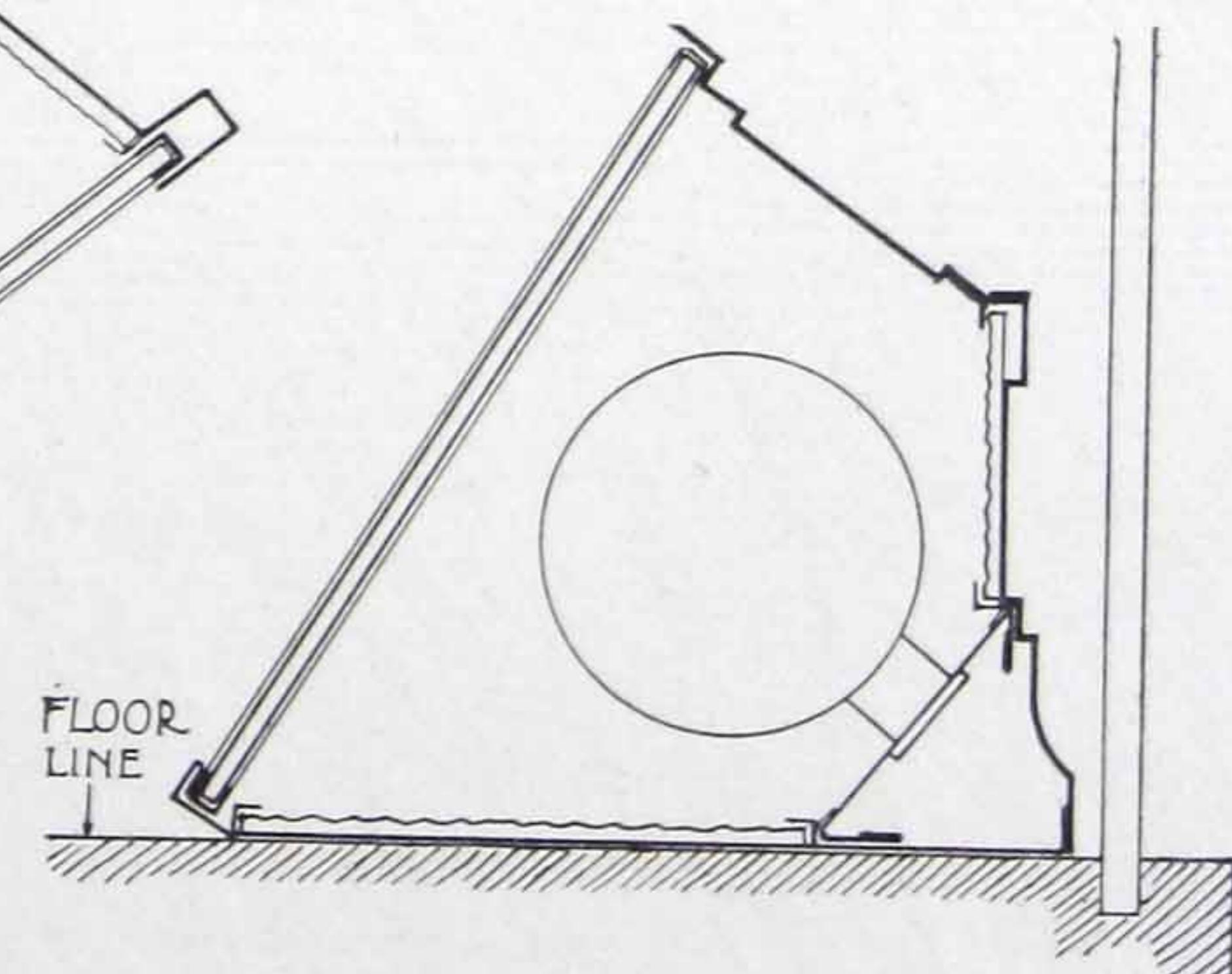


No. 561



No. 562

Prices on Application



No. 563

# Frink Standard Counter Case Reflectors

With the development of Mazda lamps for showcase work, this branch of store lighting is becoming more and more popular and we have developed reflectors to meet every condition in this class of work.

These reflectors are made in one piece of cold drawn bronze, brass or steel, with silver ripple glass, polished nickel or aluminum reflecting surface.

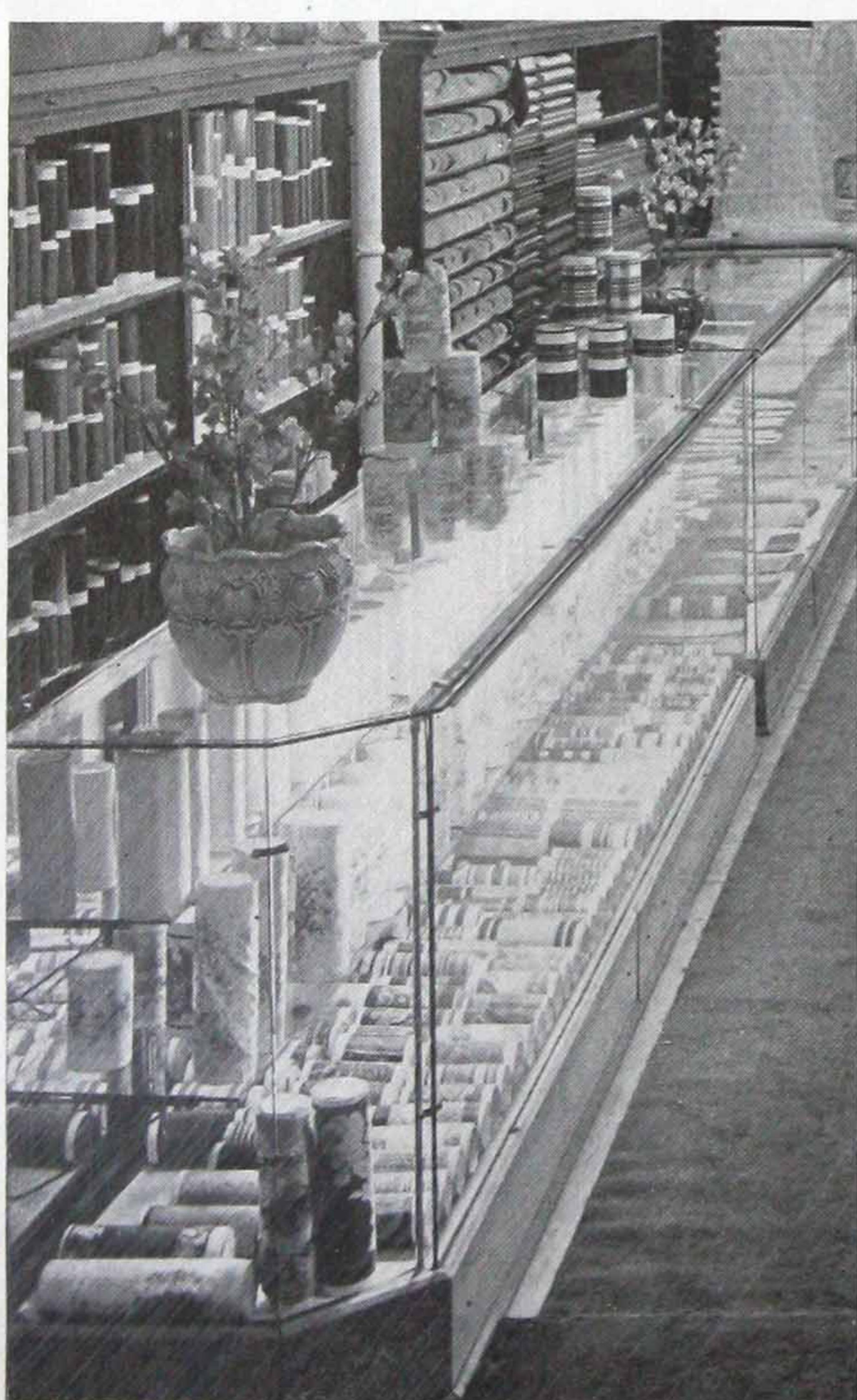
The wiring is self-contained and it is necessary to feed to only one point in each case. The wiring trough is removable. Reflectors can be fastened directly to moulding of cases by means of wood screws.

In the design of our reflectors, provision is made for cleaning the plate glass behind the reflectors. We advise the use of *Linolite* Mazda lamps for showcase lighting. However, standard base tubular lamps will be found satisfactory when used in the types developed for same.

**CONTINUOUS REFLECTOR** should be used in preference to short sections or units. First: On account of the symmetrical appearance it does not attract attention to itself—it appears a part of the case. Second: There is less liability of breakage of glass from expansion or contraction, due to unequal distribution of heat. Third: Wiring difficulties are lessened and cost of maintenance is reduced to a minimum. **Select reflectors that shield the lamps from the eyes of clerks behind the counter.**

**FINISH**—When it is desired to have the outside finish to match the woodwork of cases, reflectors with silvered glass or aluminum reflecting surface should be used. We can match almost any kind of wood with our special process of electroplating; a metallic finish that will not discolor, become scratched or peel off. For all-glass cases, nickel-plated finish should be used.

**LAMP SPACING**—For the average size case, six, eight or even ten feet long, four 25-watt *Linolite* or 25-watt standard base tubular Mazda lamps will give satisfactory results. *Linolite* lamps are particularly adapted to this class of work, because of the small diameter of lamp and socket, the prevention of sagging through support of lamp at both ends; and the greater relative length of filament will give better distribution. The life of this lamp is much longer than the ordinary tubular lamp.



Cut showing all glass case equipped with continuous reflectors

**INSTALLING**—All types shown can be installed with or without clips, except in all-glass cases where clips are usually necessary.

**See Page 15 for special fittings for installing**

No.	Price per Ft.
511 Nickel Plate inside and out.....	\$3.75
18370 Inside Pol. Aluminum, outside to match case.....	4.00
513 Nickel Plate, inside and out.....	3.75
514 Nickel Plate, inside and out.....	3.75
515 Nickel Plate, inside and out.....	3.75
516 Glass lined finished outside to match case..	4.25
517 Nickel Plate, inside and out.....	3.75
518 Glass lined finished outside to match case..	4.00
518 Steel, Aluminum inside, outside to match case ..	3.50
519 Steel, Aluminum inside, outside to match case ..	3.50

*An extra charge will be made for sections less than four feet long, also for quarter circles*

# Frink Standard Counter Case Reflectors

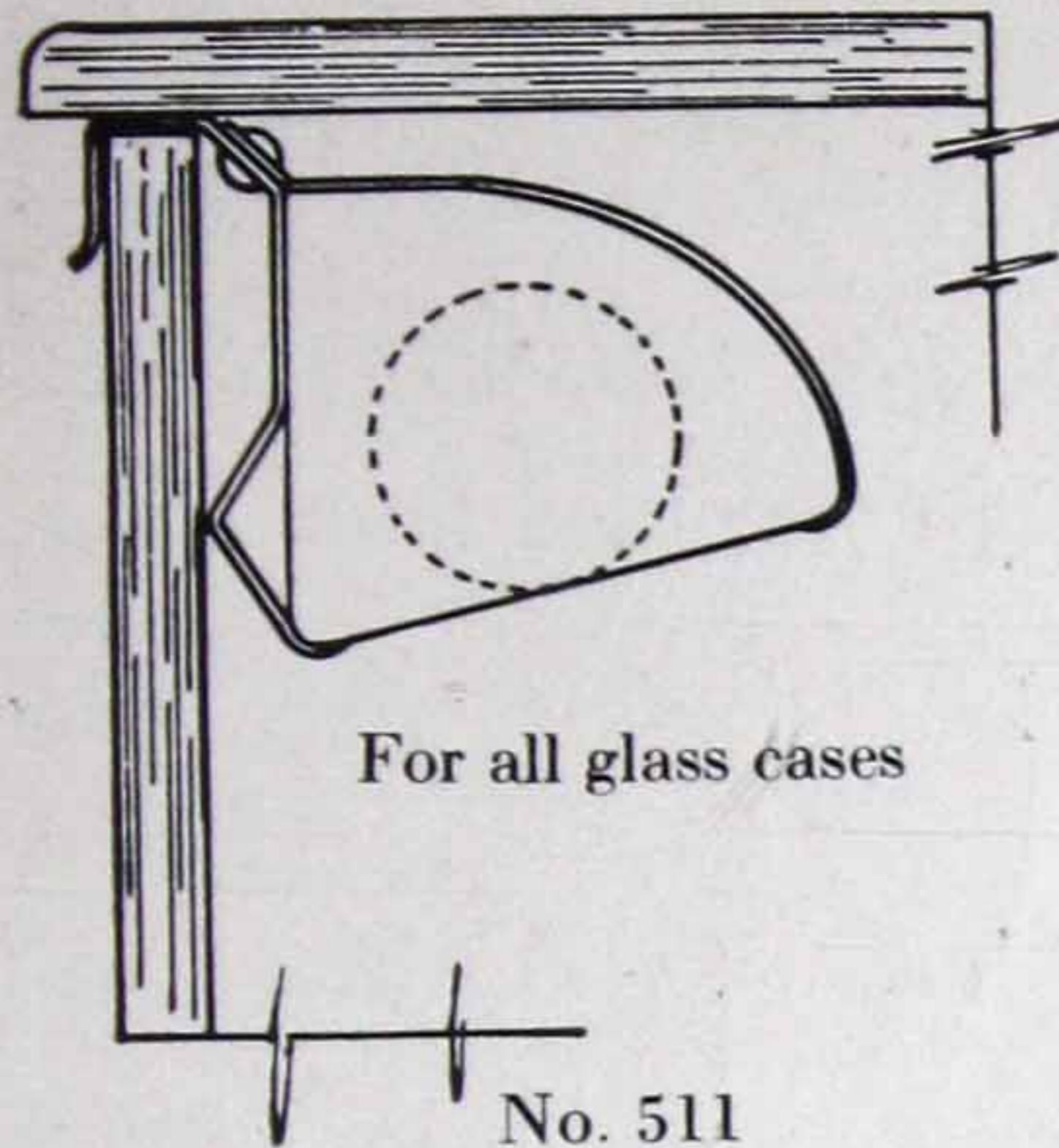
END DRAWINGS  $\frac{1}{2}$  FULL SIZE

All reflectors shown on this page are made in one piece of cold drawn bronze, brass or steel, in any length up to 12 feet long. No. 511 is made for all-glass cases.

Sketches show position in which reflectors should be installed

For Fittings see page 15

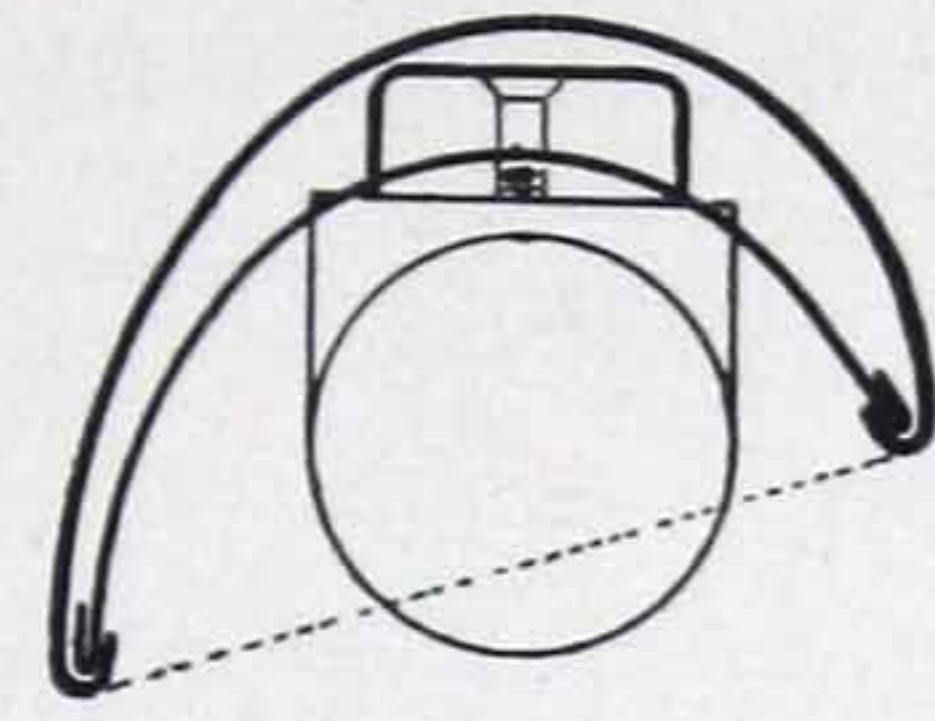
For Best Results, Use Linolite Lamps



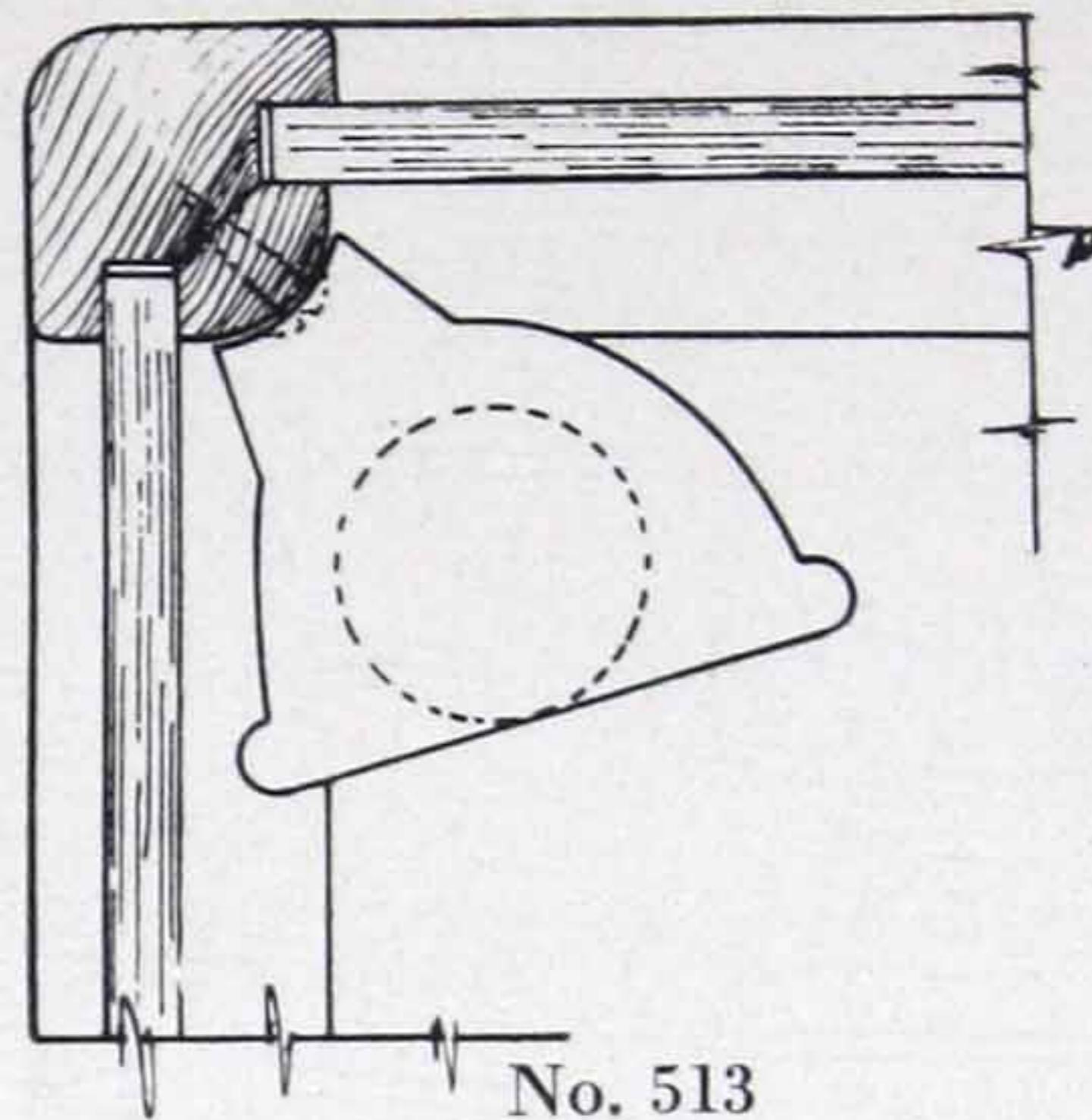
For all glass cases

No. 511

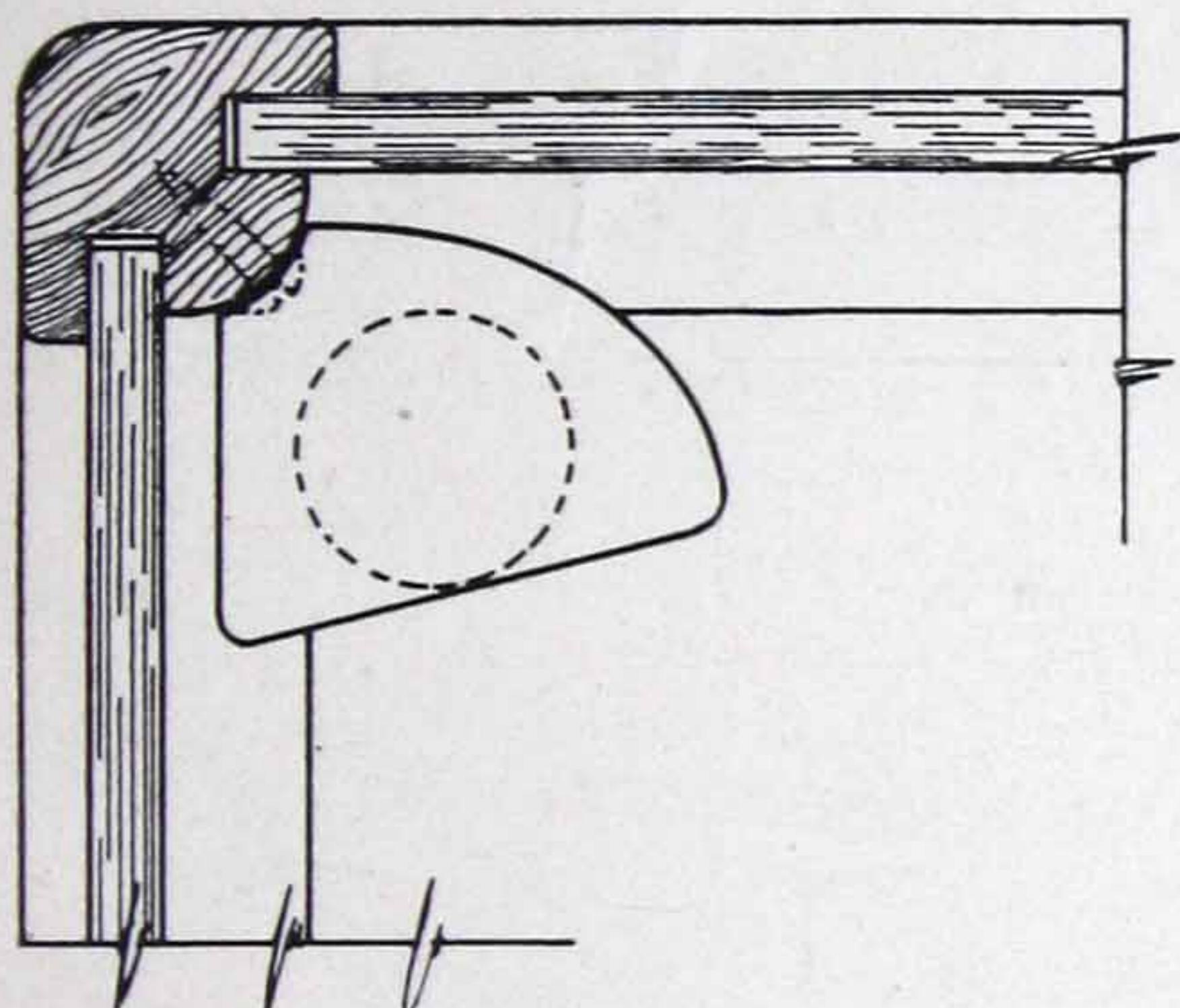
Prices include wiring and sockets attached, complete ready to install except lamps.



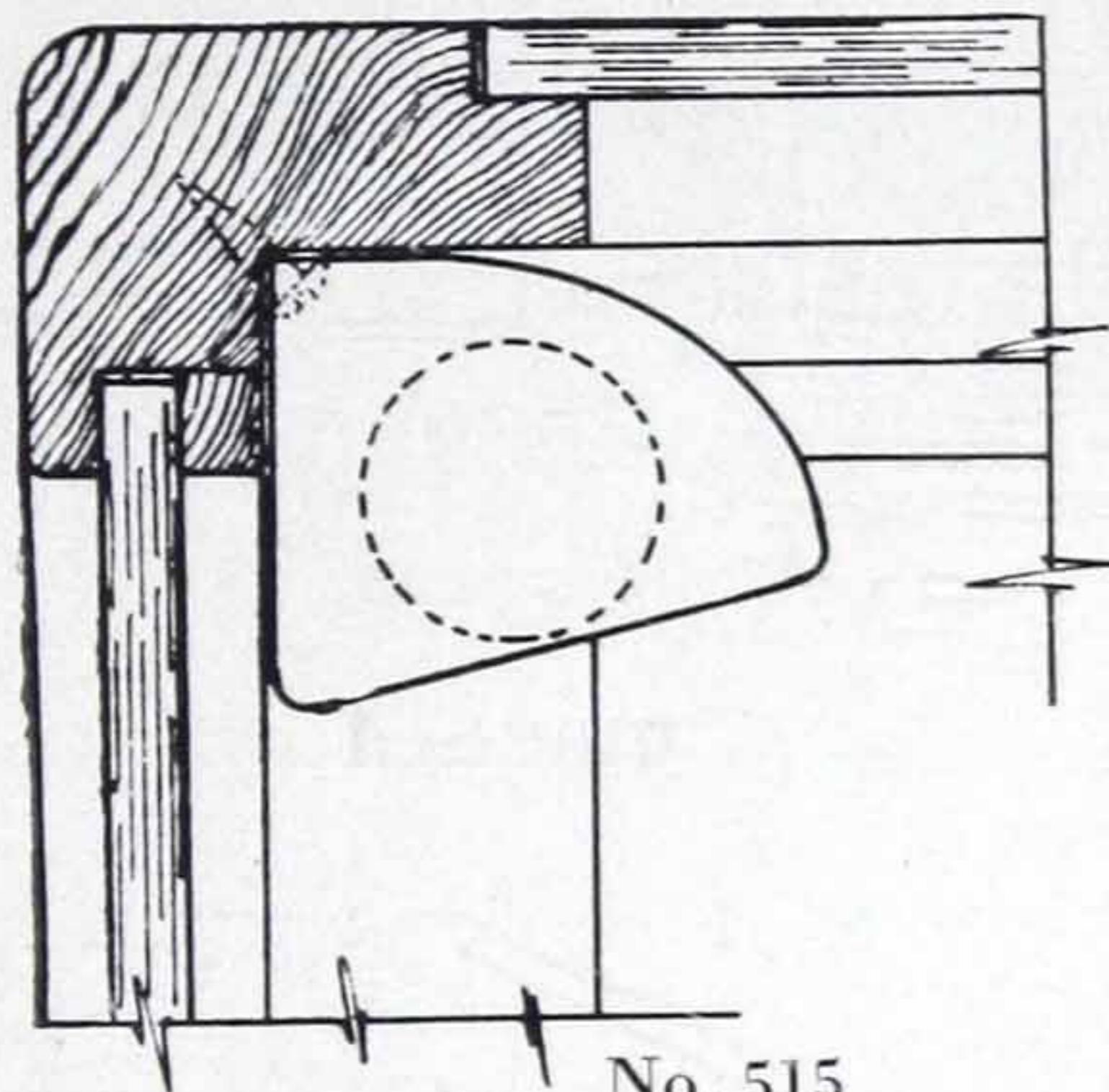
No. 18370



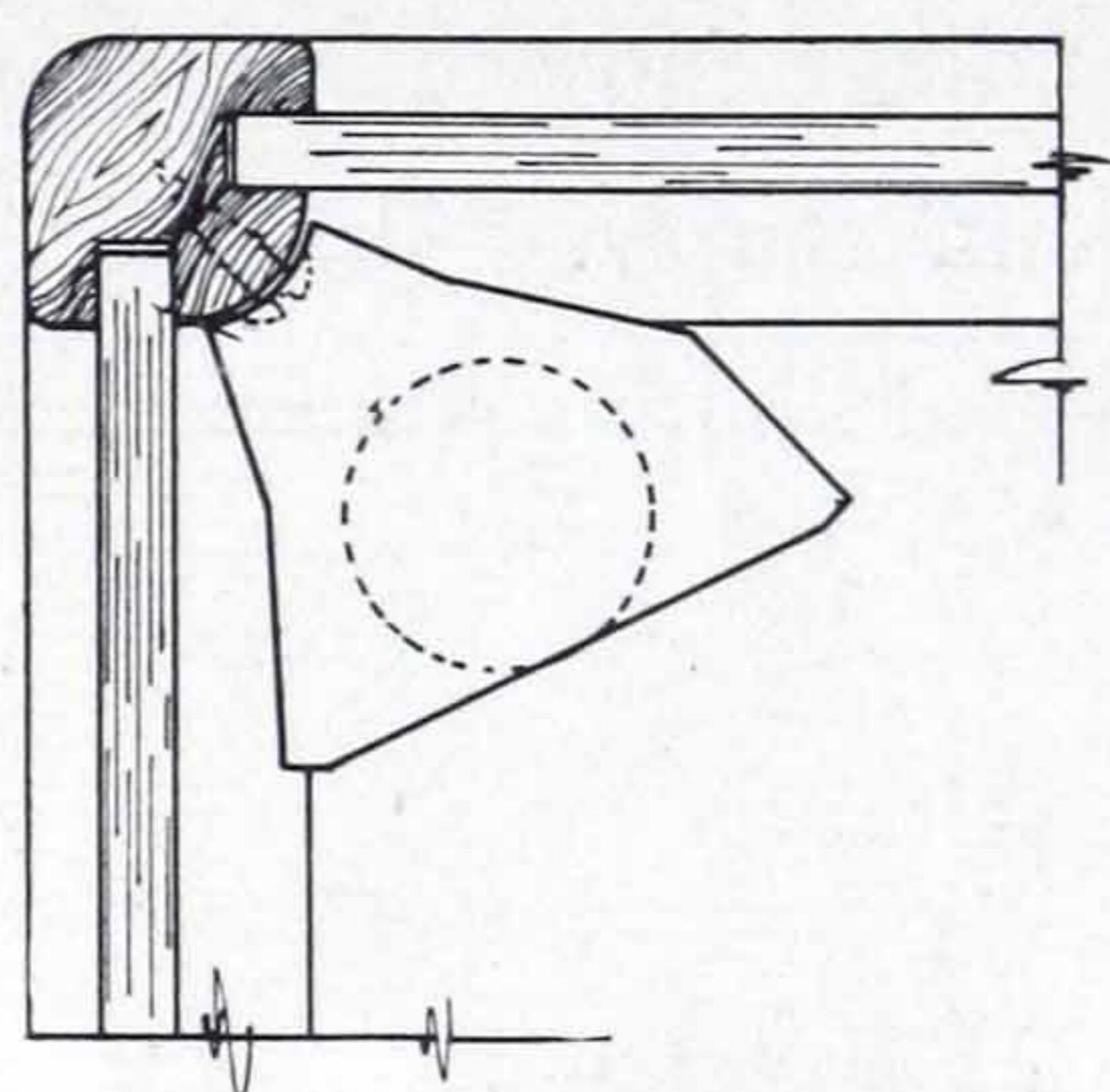
No. 513



No. 514



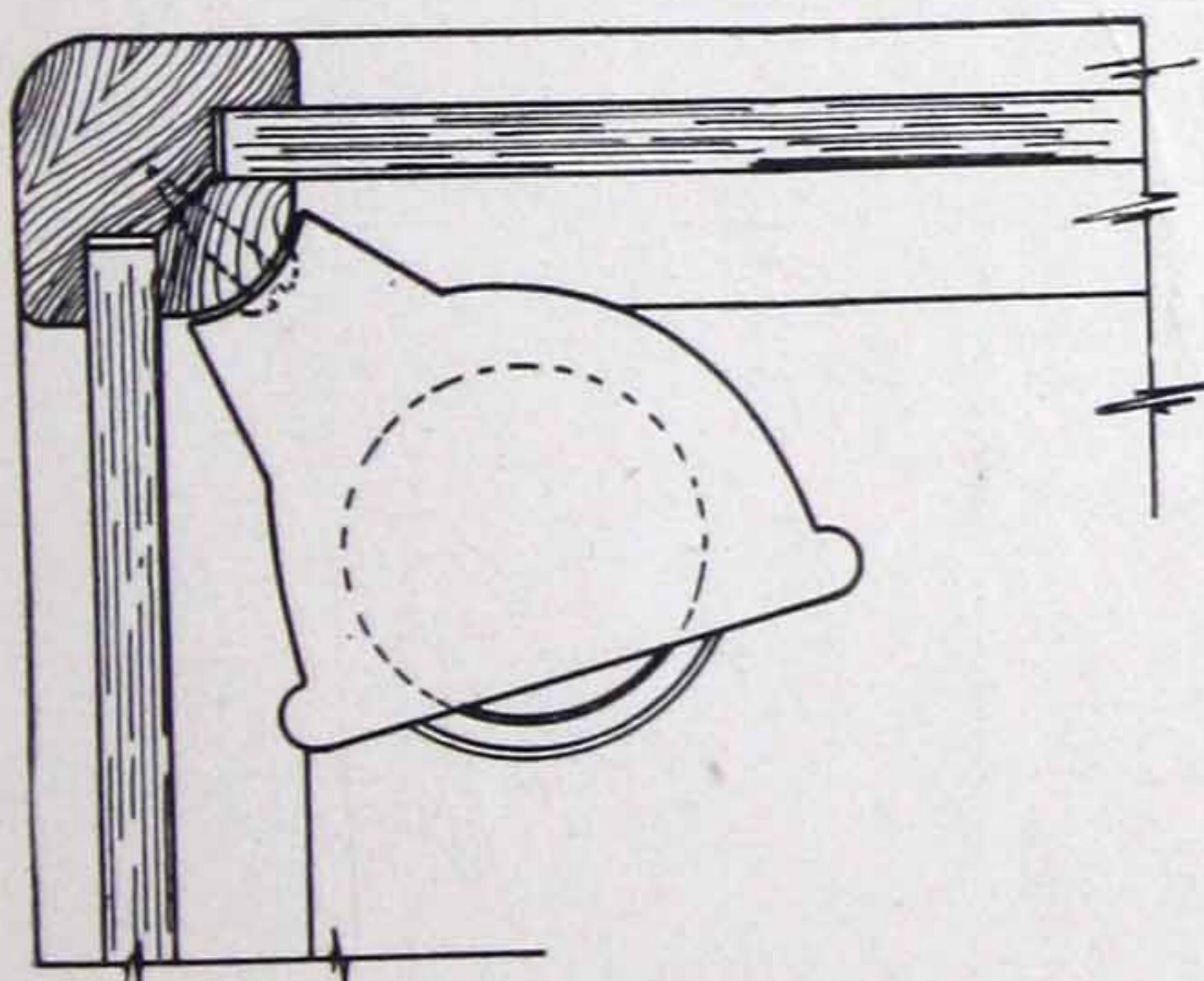
No. 515



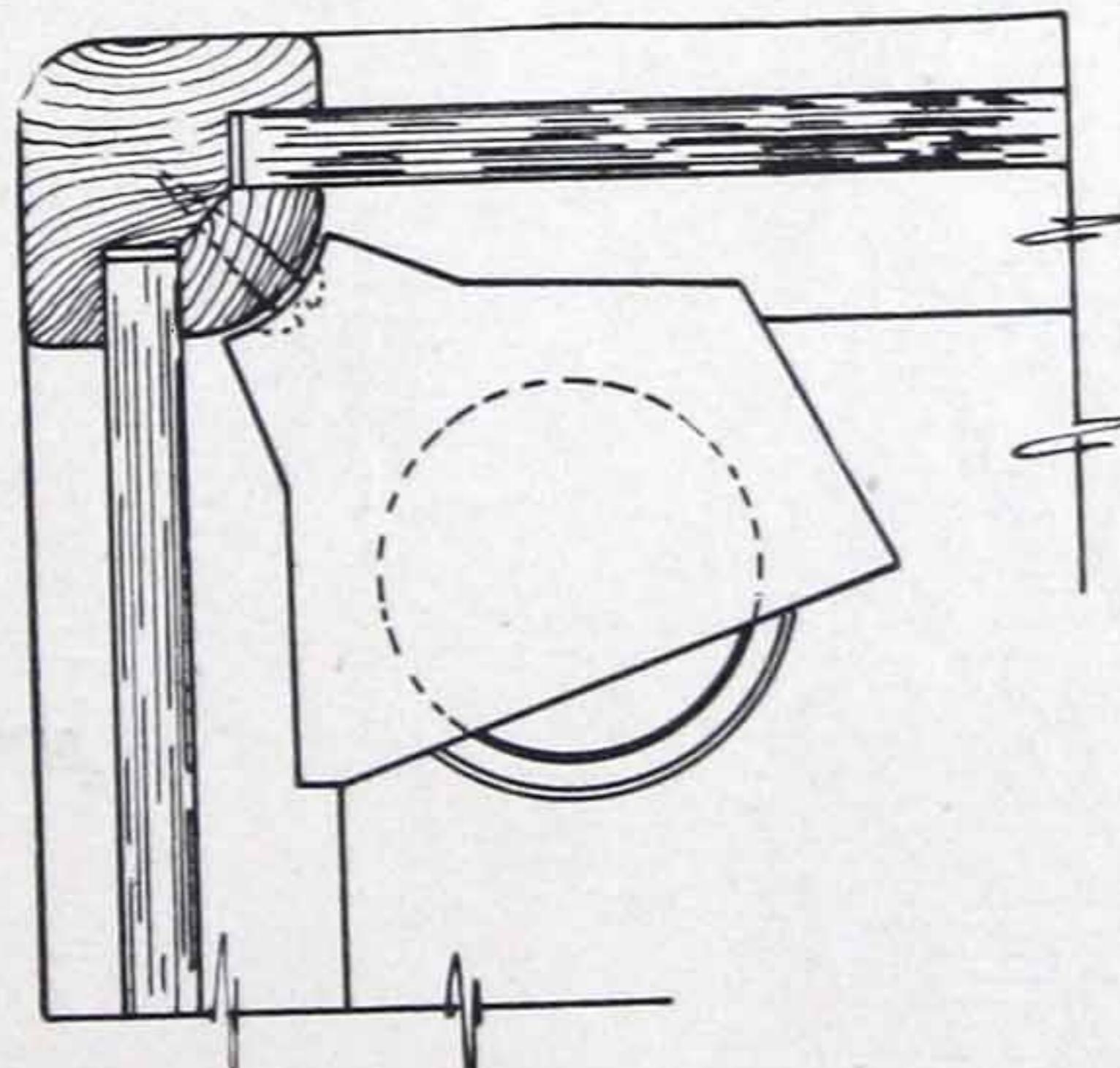
No. 516

Above types made for Linolite lamps only.

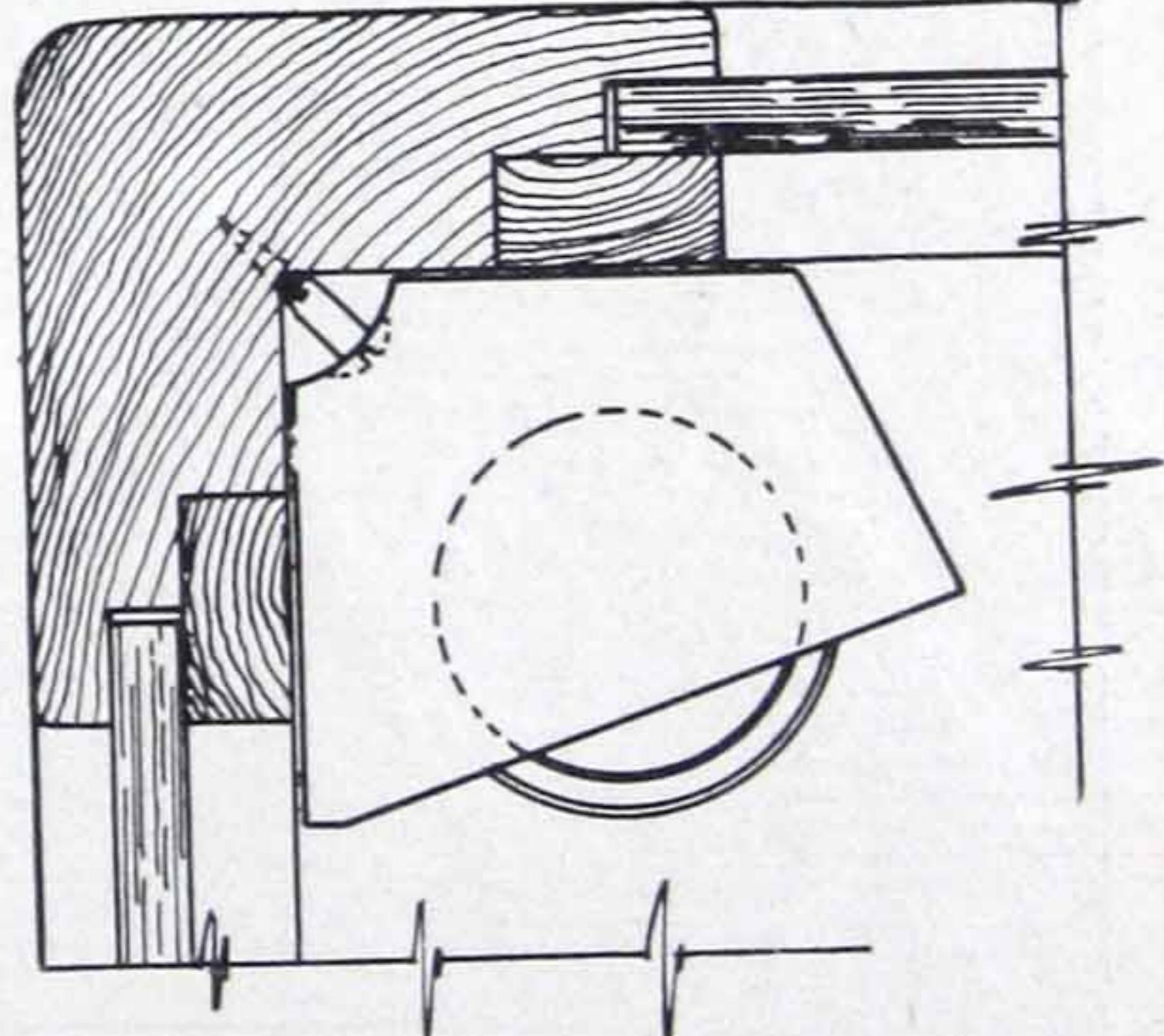
Following types made for standard base tubular Lamps.



No. 517



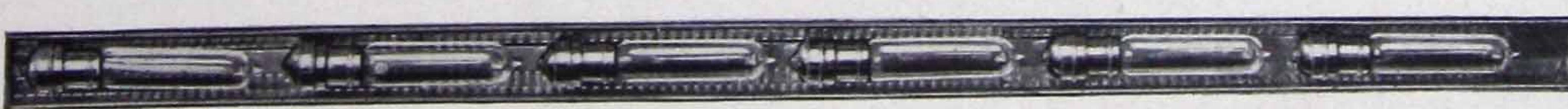
No. 518



No. 519



Cut showing typical arrangement of Linolite lamps.



Cut showing typical arrangement of standard base, tubular lamps.

For Best Results, Use Linolite Lamps

# Frink Wall and Clear Standing Case Reflectors

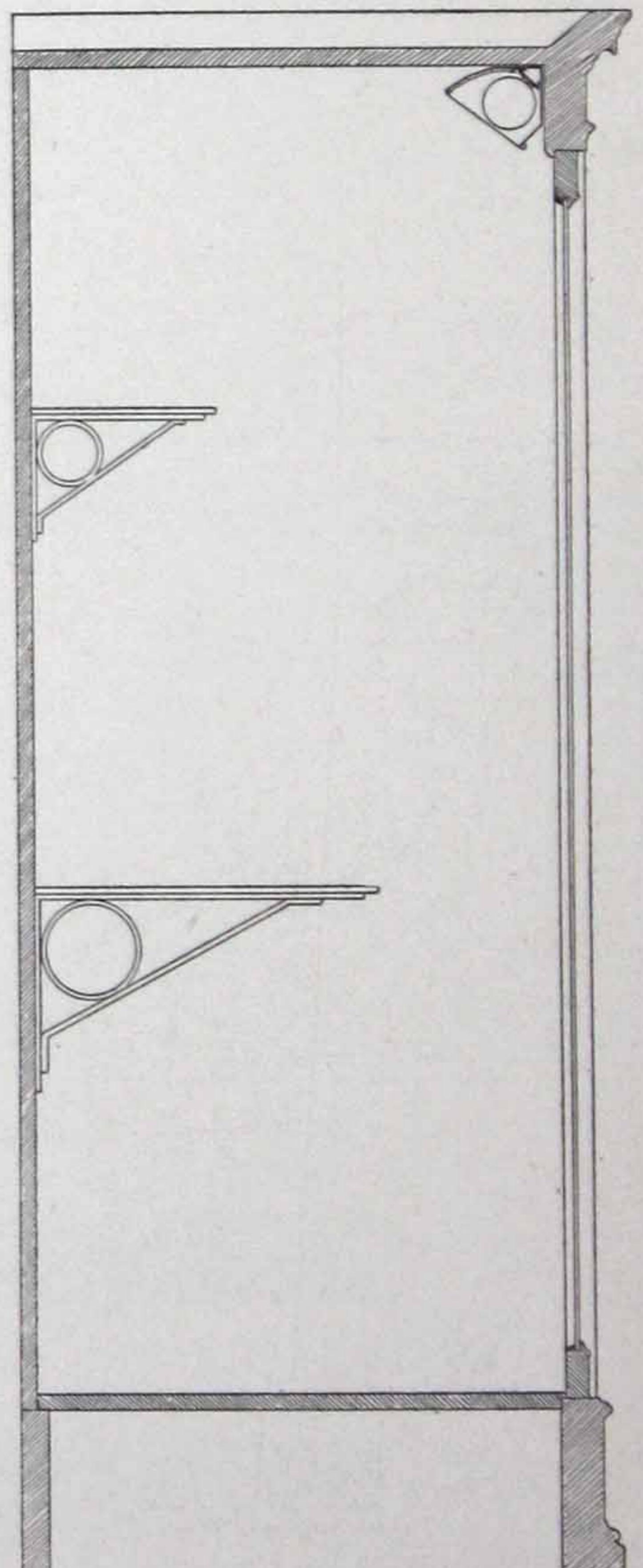
In the lighting of wall cases and clear standing cases Frink reflectors can be used either with *Frink Linolite* or standard base Mazda lamps.

The reflectors are made of heavy gauge metal, lined with special silver ripple glass, and fit in the upper front corner of the case. They can be stained to match woodwork and visible parts made to appear part of same. The lamps are entirely concealed from view. In clear standing cases, lighting through the glass ceiling or sash will prove most satisfactory.

Where cases have mirror backs reflectors should be provided with shield to cut off back reflection and avoid showing the image of the lamps and reflectors in the mirror. See diagram page 5. For new installations we will be pleased to co-operate with case manufacturer. Usually a slight alteration in design will eliminate this annoyance. 25-Watt lamps spaced about 14 inches apart will give satisfactory results.



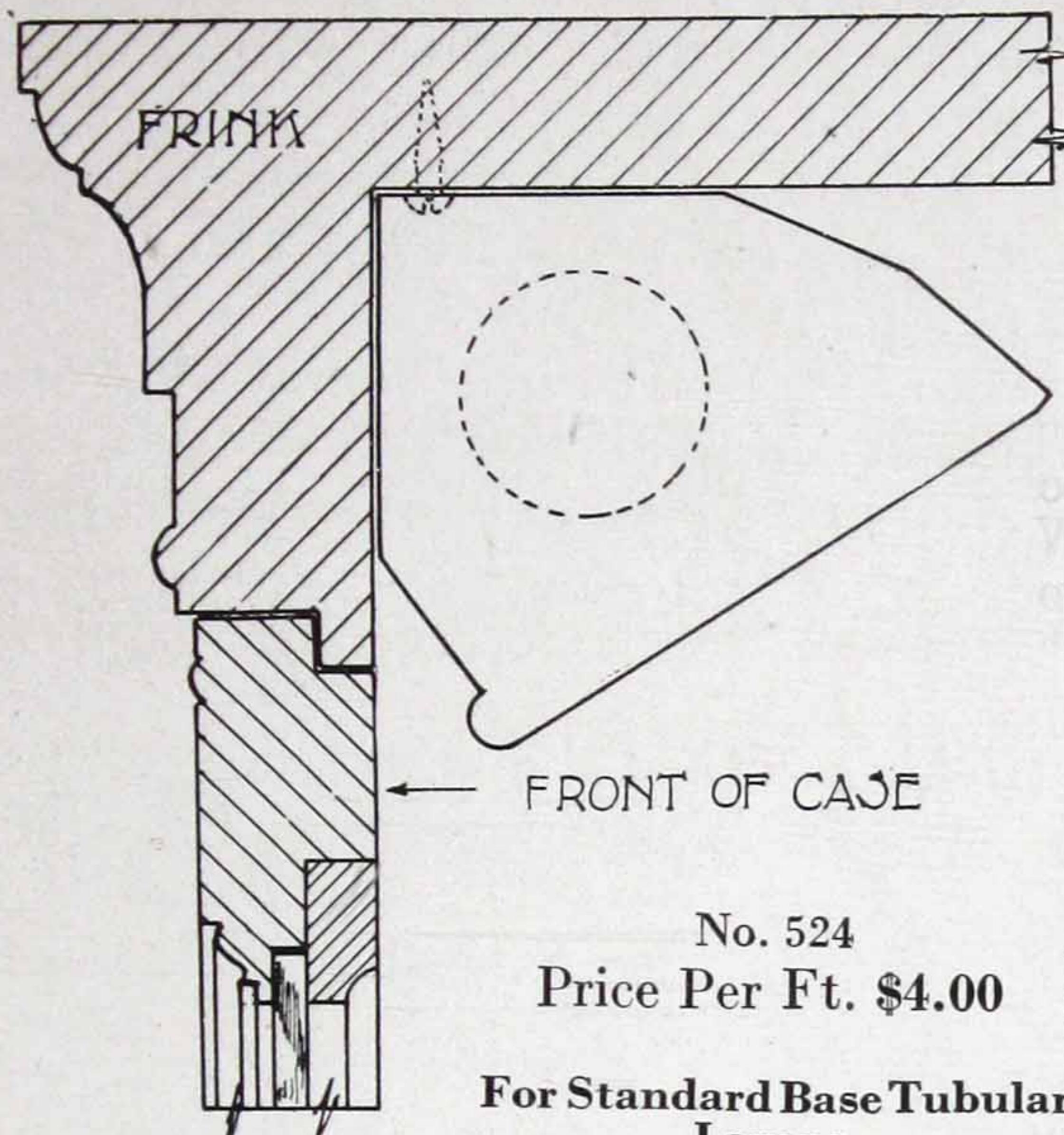
Case illuminated with reflector No. 526



Section of high case showing reflector No. 526 in position

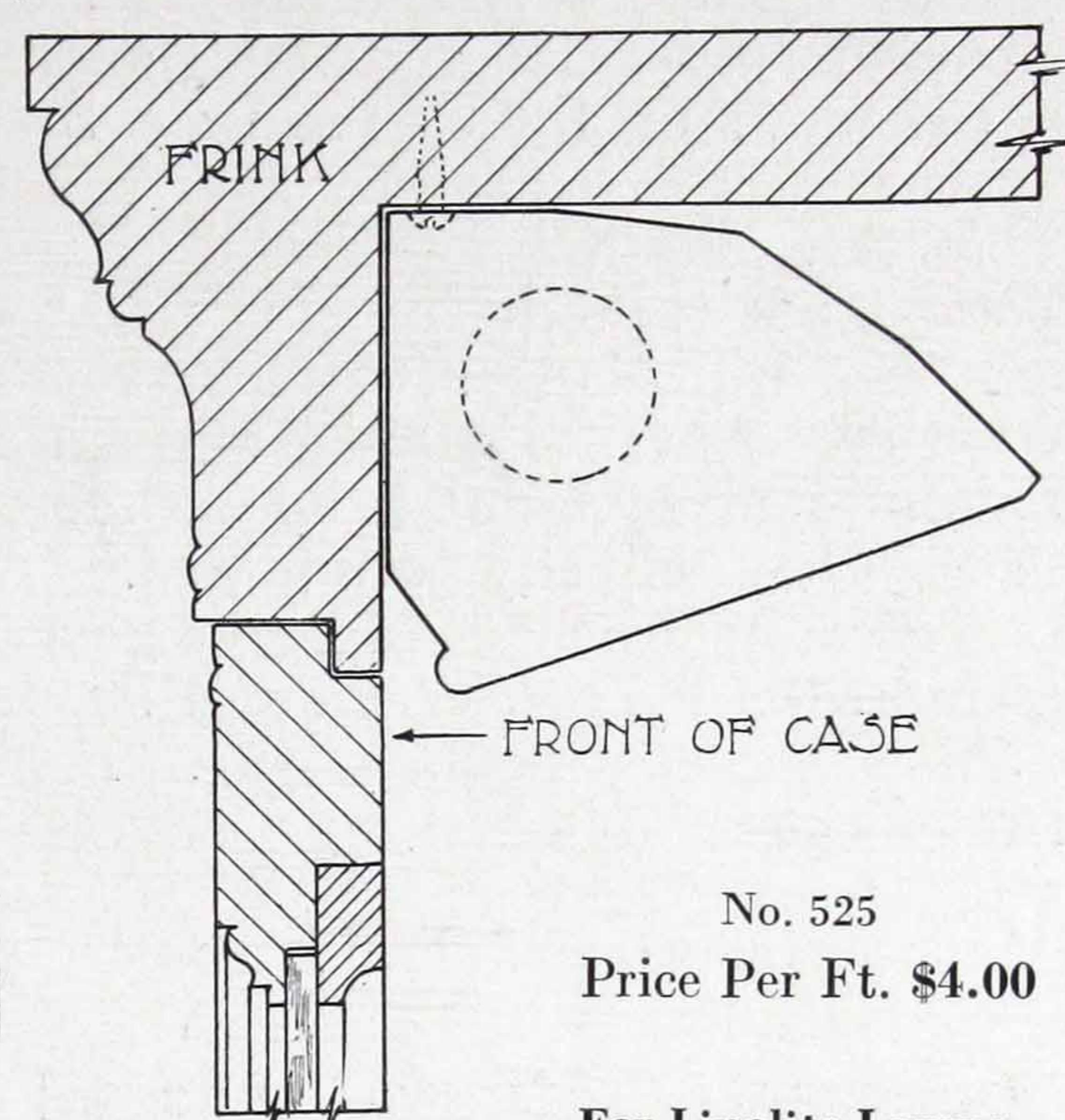
# Frink Wall and Clear Standing Case Reflectors

END VIEW  $\frac{1}{2}$  FULL SIZE



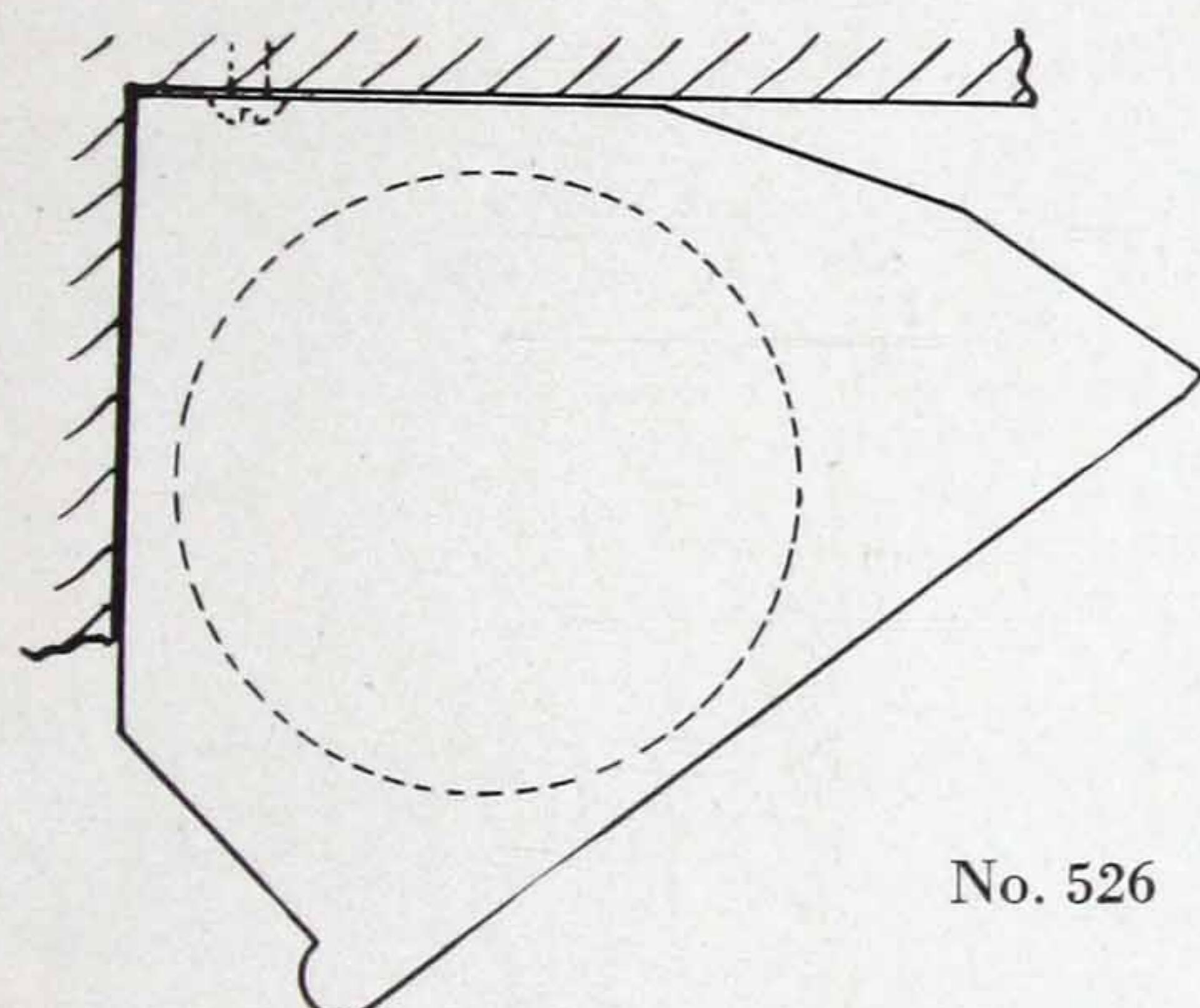
No. 524  
Price Per Ft. \$4.00

For Standard Base Tubular Lamps.



No. 525  
Price Per Ft. \$4.00

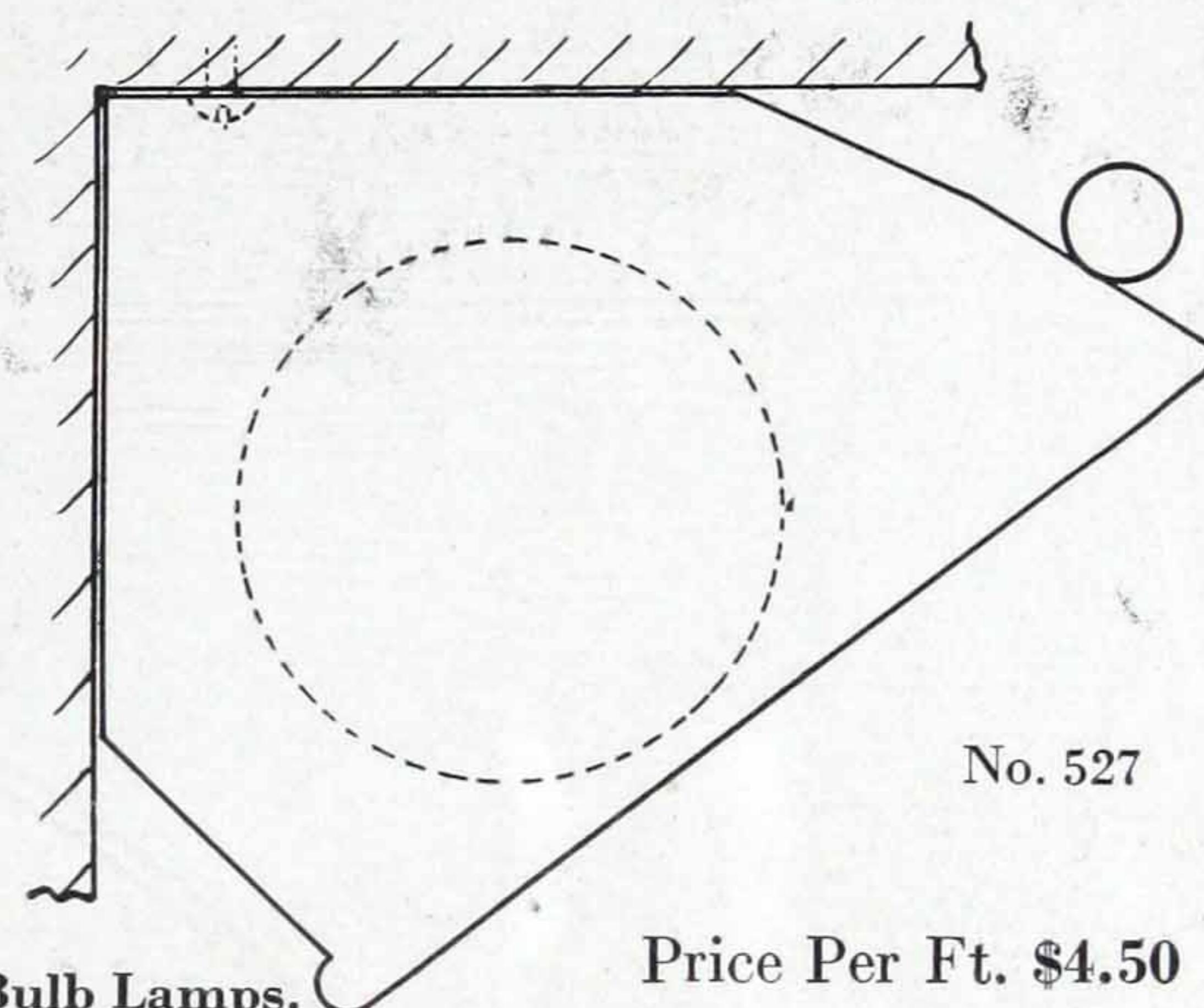
For Linolite Lamps.



No. 526

Price Per Ft. \$4.50

For Standard Base Bulb Lamps.



No. 527

Price Per Ft. \$4.50

Reflector No. 520 For Standard Base Lamps.

Reflector No. 521 For Linolite Lamps.

Price \$4.25 Per Ft.

Reflector No. 522 For Standard Base Lamps.

Reflector No. 523 For Linolite Lamps.

Price \$4.75 Per Ft.

Reflector Sections  $\frac{1}{8}$  Full Size

**Prices include wiring and sockets attached.**

*An extra charge will be made for sections less than four feet long.*

# Frink Picture Gallery Reflectors

In gallery lighting the reflectors should be installed far enough above the highest pictures to eliminate back reflection or glare in the canvas and far enough out from the wall to prevent shadows on the canvas from the projection of heavy frames. See figure 2. Position C is correct—No shadows from frame projection and no back reflection or glare in eyes of observer. Position D—Too close to wall. Note shadow from frame. Position E—Reflector too low, producing back reflection and glare in picture.

When time will permit, it will be well to submit data to our engineering department for advice. Always state size of room, height of ceiling, height of picture space and whether pictures are hung full height of same. Also give location of outlets and capacity of them if they have already been placed.

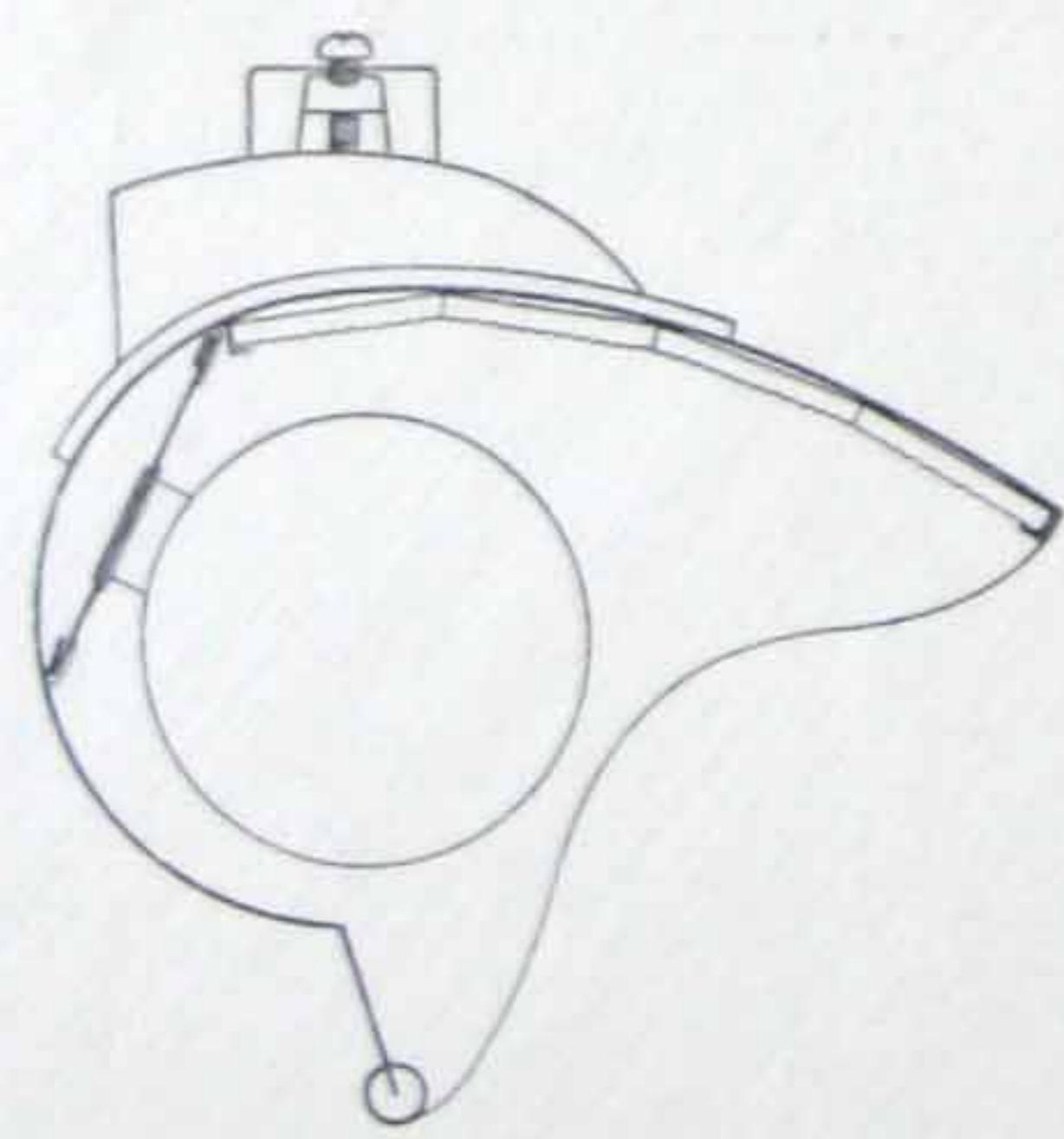
These reflectors are made of heavy gauge metal, lined with silvered rippled glass and can be installed on hangers or bracket supports.

No. 564 is the most popular type. It is provided with a shield or apron to protect the eye from all glare when viewing pictures from any part of the room back of the reflector line.

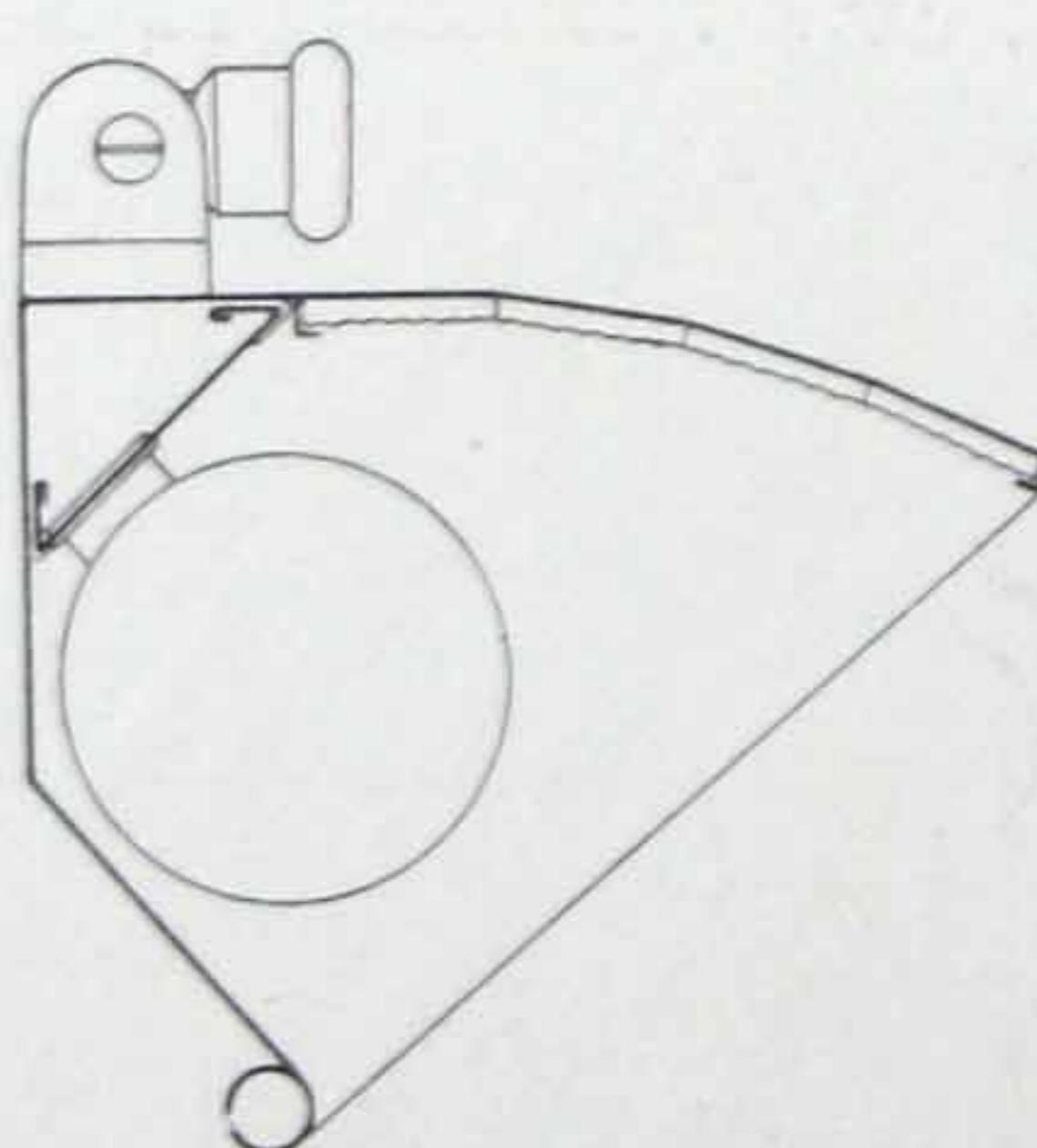
No. 565 is a reflector of cheaper construction, also provided with shield.



Continuous Reflector Installed



No. 564  
Price Per Ft. \$9.00



No. 565  
Price Per Ft. \$5.60

Furnished Wired With Sockets Attached  
Hangers and Brackets Extra

Under normal conditions 25-Watt lamps spaced 12 inches apart will give satisfactory results. Reflectors are constructed of heavy gauge metal, lined with our silvered rippled glass, finished on the outside to match ceiling or side walls. If especially interested in picture lighting send for catalog No. 422.

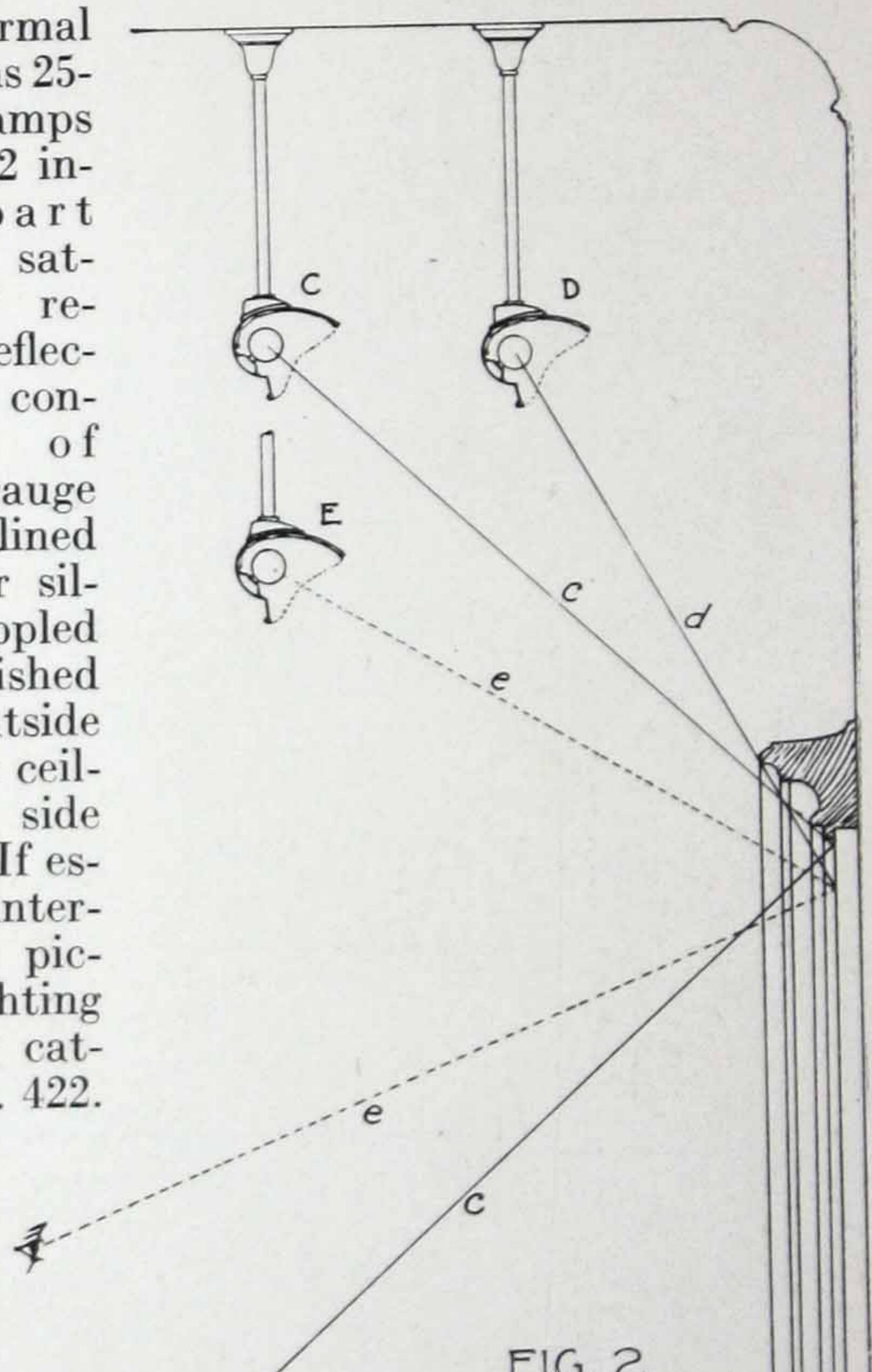


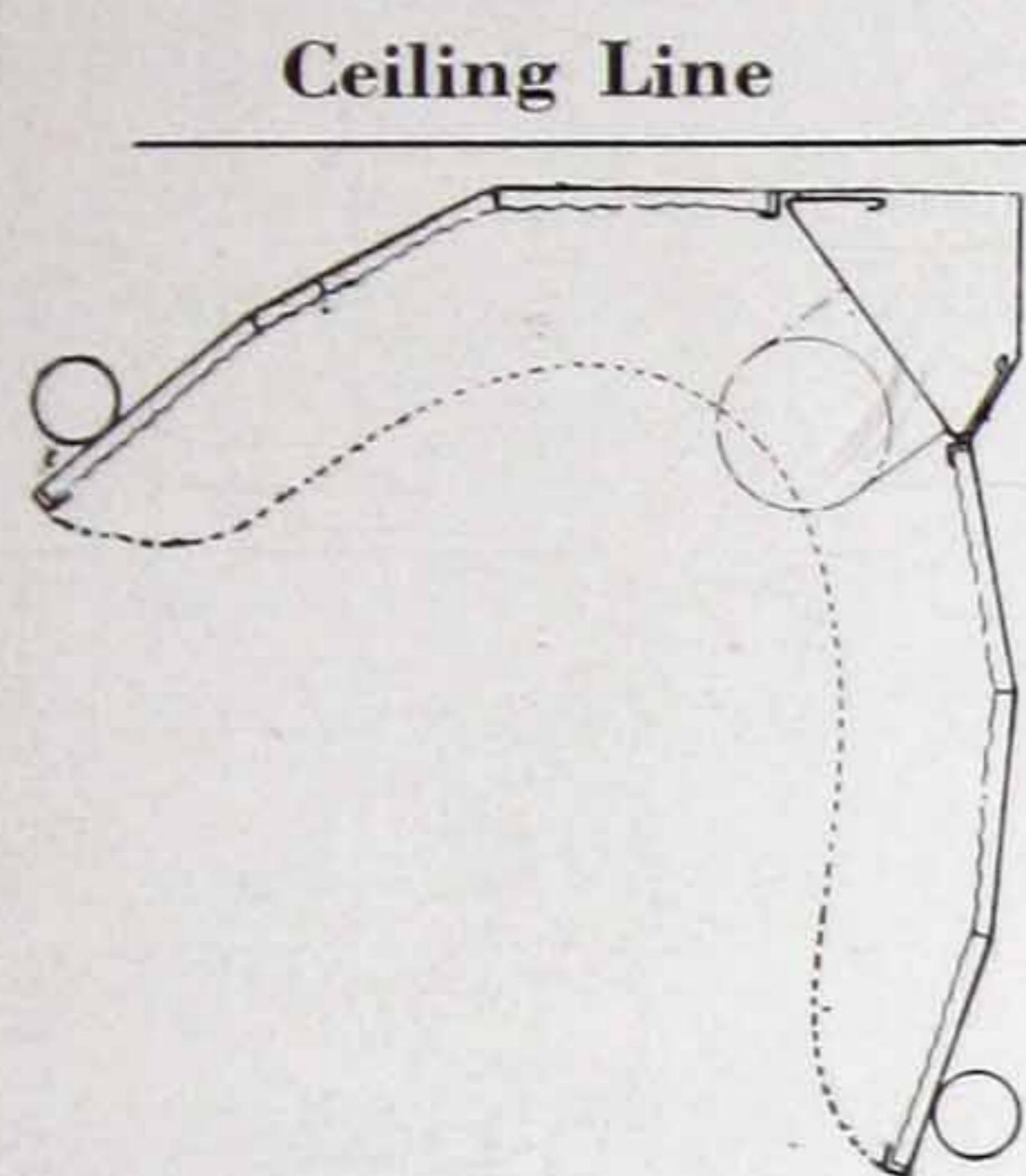
FIG. 2

Cuts  $\frac{1}{4}$  Full Size

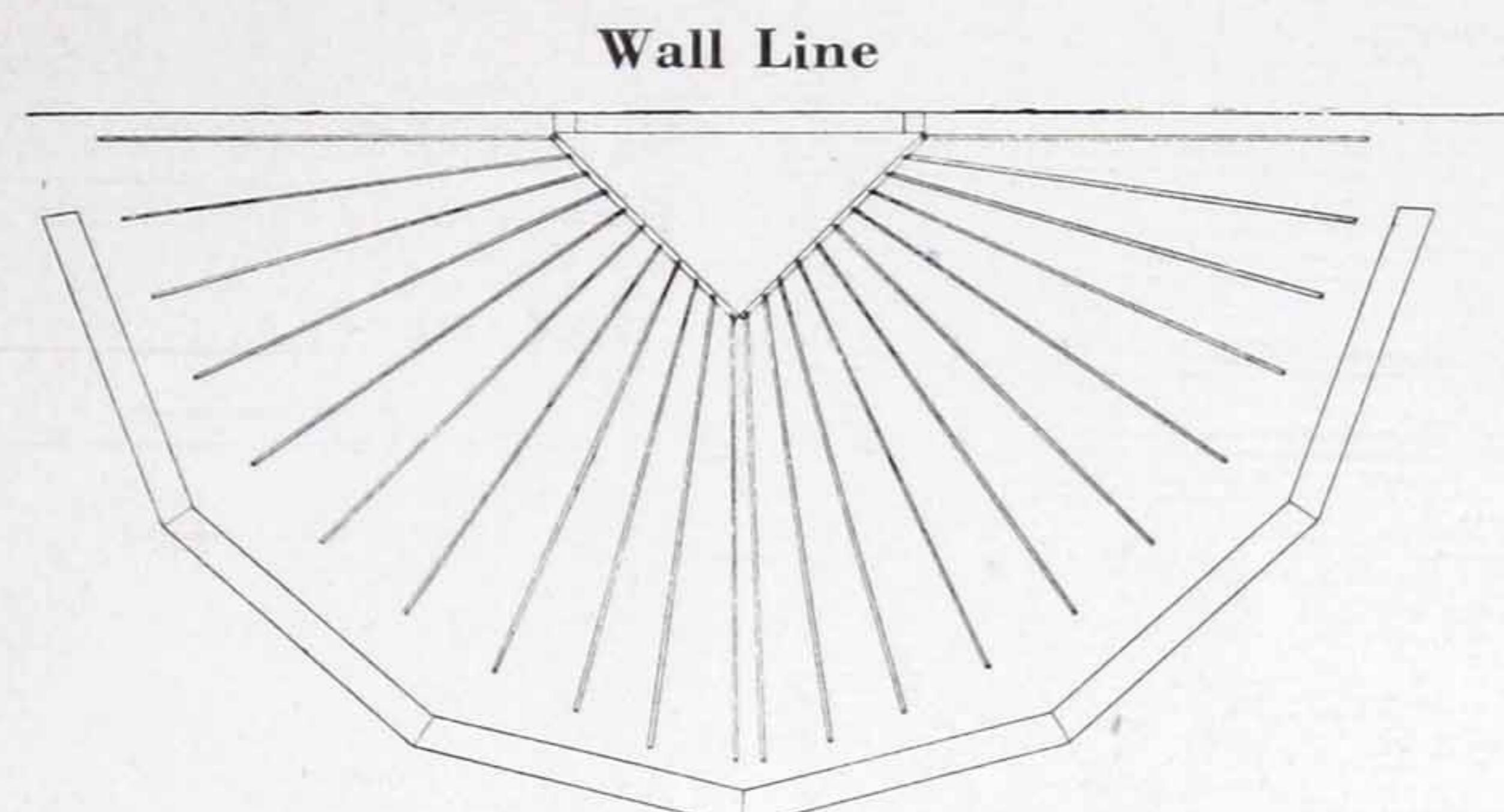
# Frink Rug Rack Reflectors

SECTIONS  $\frac{1}{4}$  FULL SIZE.

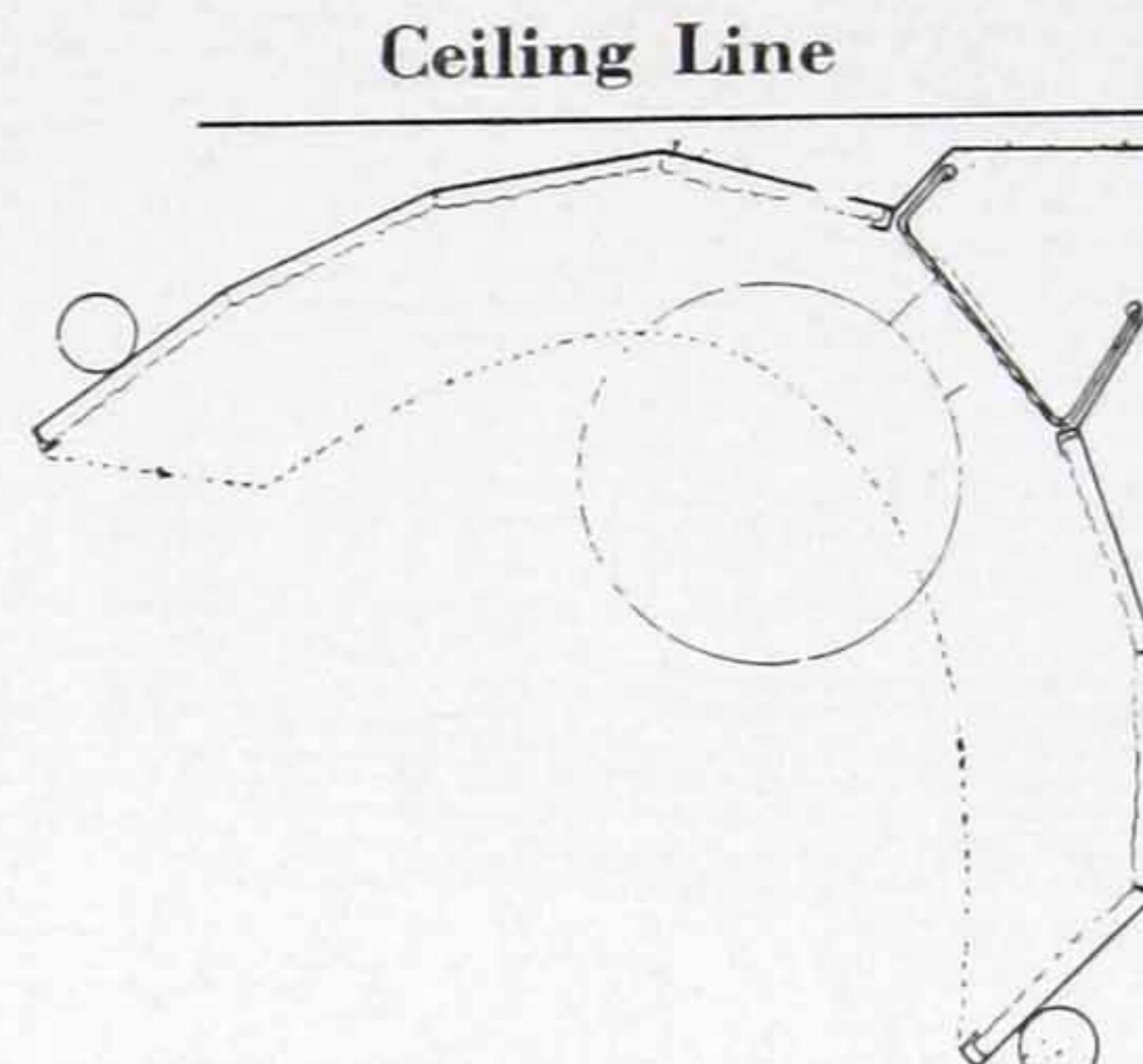
For the lighting of rug racks we have a special system adapted for either *Frink Linolite* or standard base bulb lamps. The reflectors are mitred to fit the sweep of the arms and can be fastened either directly to ceiling by means of wooden blocks, or suspended at a proper height by stems. With this arrangement, a well diffused light, without shadows, is obtained on the surface of the rugs, in whatever position they may be placed. **Where rugs are displayed along the walls, the reflectors can be used in one straight, continuous section.**



No. 530.  
For Linolite Lamps.



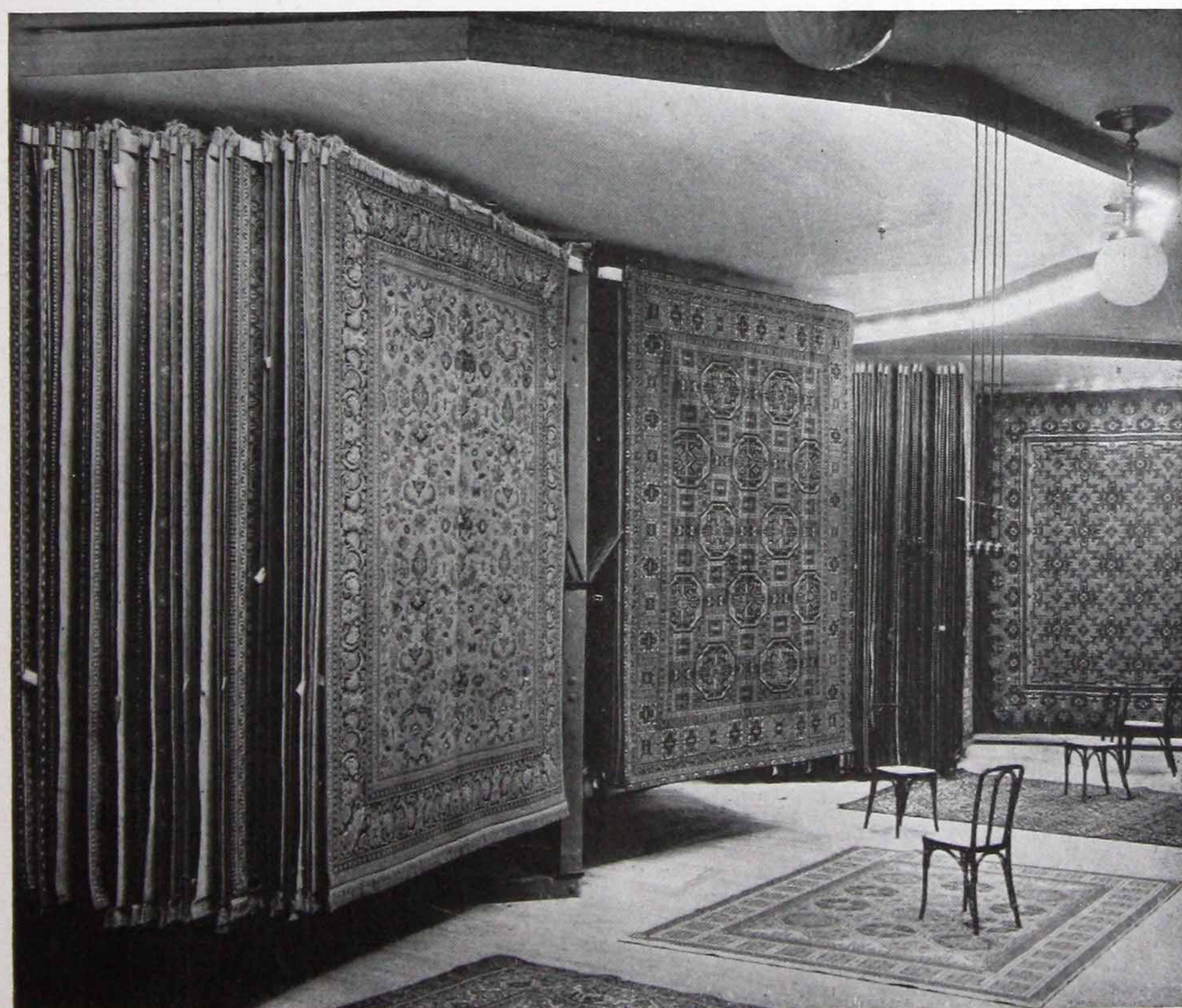
Typical Layout for Rug Rack Reflectors  
Lined with Silver Ripple Glass.



No. 531.  
For Standard Base Lamps.

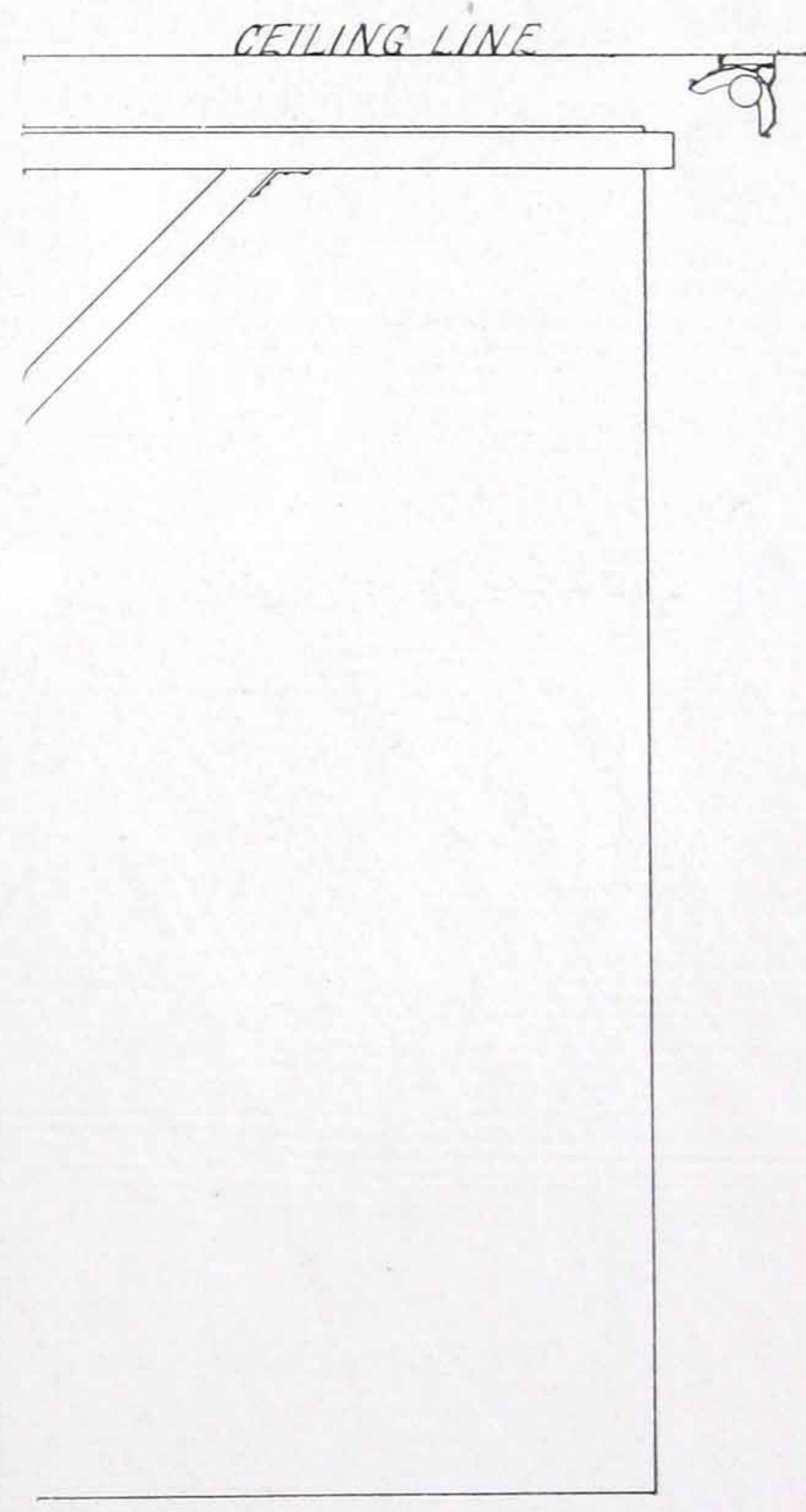
Price \$6.50 Per Ft.

Drawings Show Position in Which Reflectors Should be Installed.

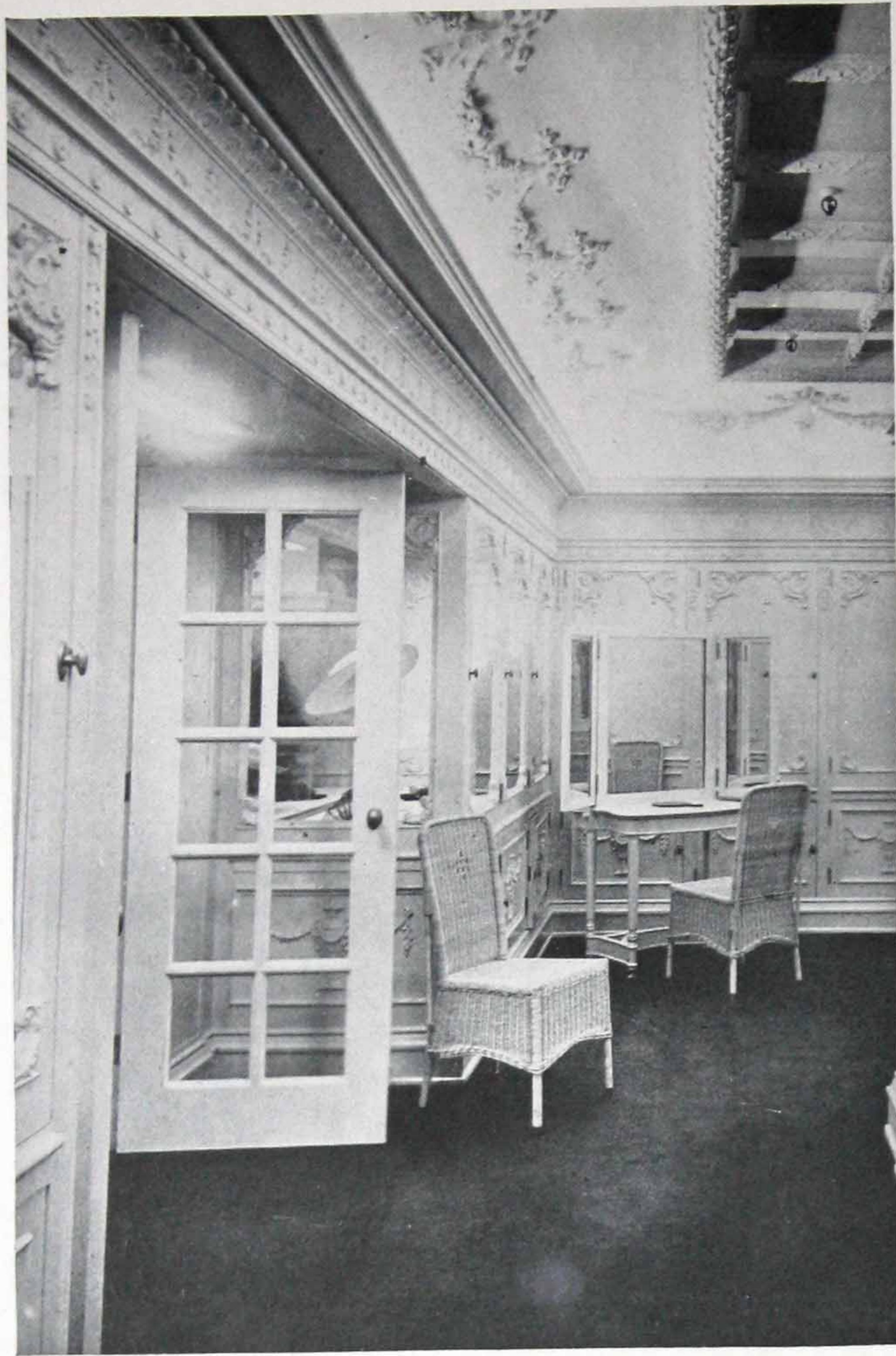


Continuous Reflector Installed

We make individual reflectors for lighting rugs displayed flat on the floor.



Section Showing Position of  
Reflector in Relation to Arm  
of Rug Rack.



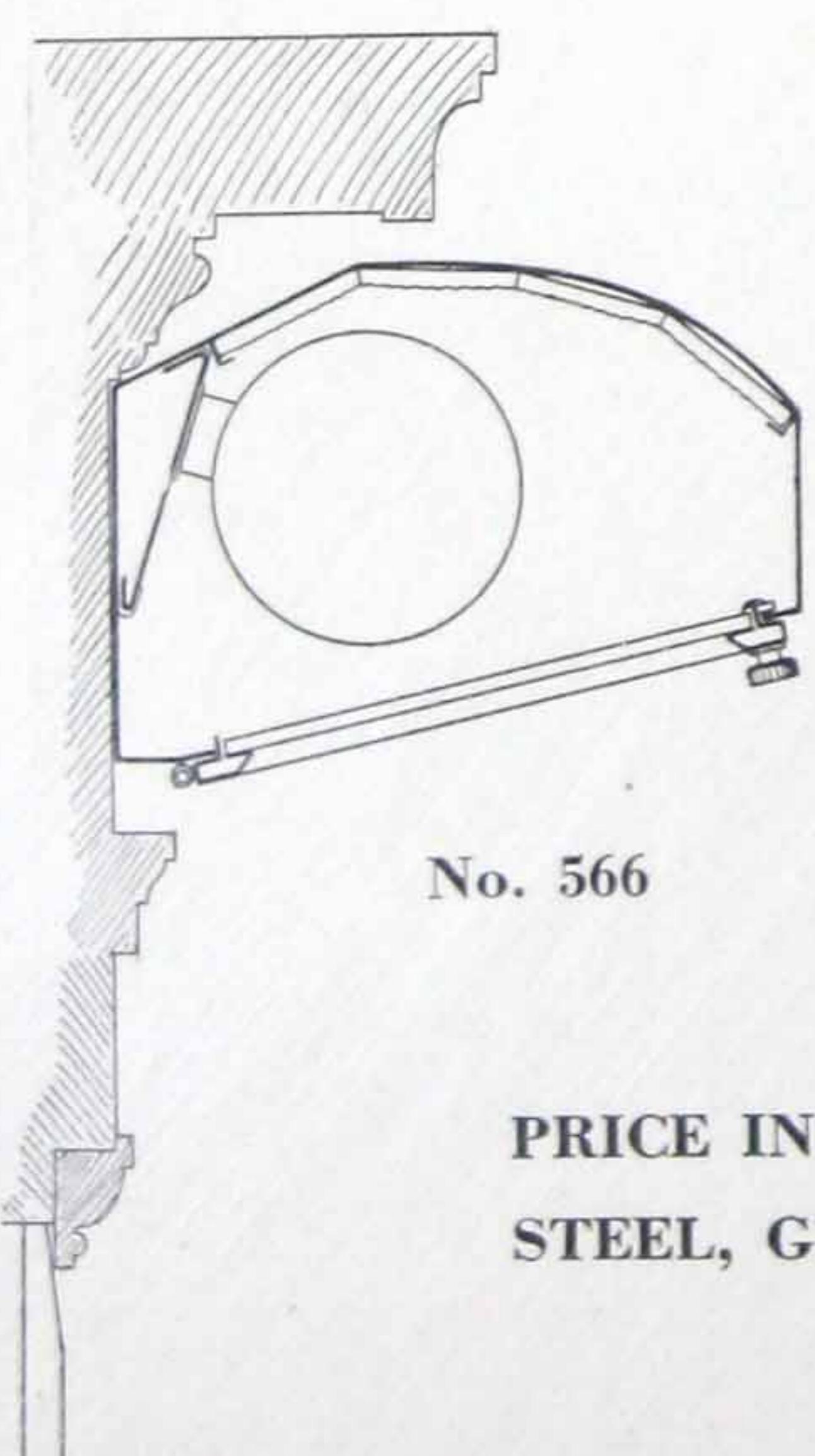
Corner of show room showing concealed lighting with reflectors installed in cornice

## Concealed Lighting

This system offers excellent opportunities for producing beautiful effects where conditions are favorable. It is advisable when time will permit to submit propositions of this kind to the engineering department for advice. Send plans if possible, or better still preliminary sketches showing the architect's idea of the design of the room, from which we can make suggestions regarding construction and position of cove that will insure satisfactory results. An ornamental ceiling is preferable to a plain ceiling. In any case a reflector specially designed to suit the conditions should be used.

### Fitting Mirror Reflectors

These reflectors should be so designed and placed that the light is thrown on the person standing before the mirror *not on the mirror*. No. 567 can be adjusted to light the person and shield the lamp from the eyes. No. 566 is equipped with diffusing glass doors.



No. 566

PRICE IN BRONZE OR BRASS . . . . .	\$45.00
STEEL, GRAINED FINISH . . . . .	35.00

Standard length 2 feet 6 inches, 4-light for standard base 25-Watt bulb lamps



No. 567

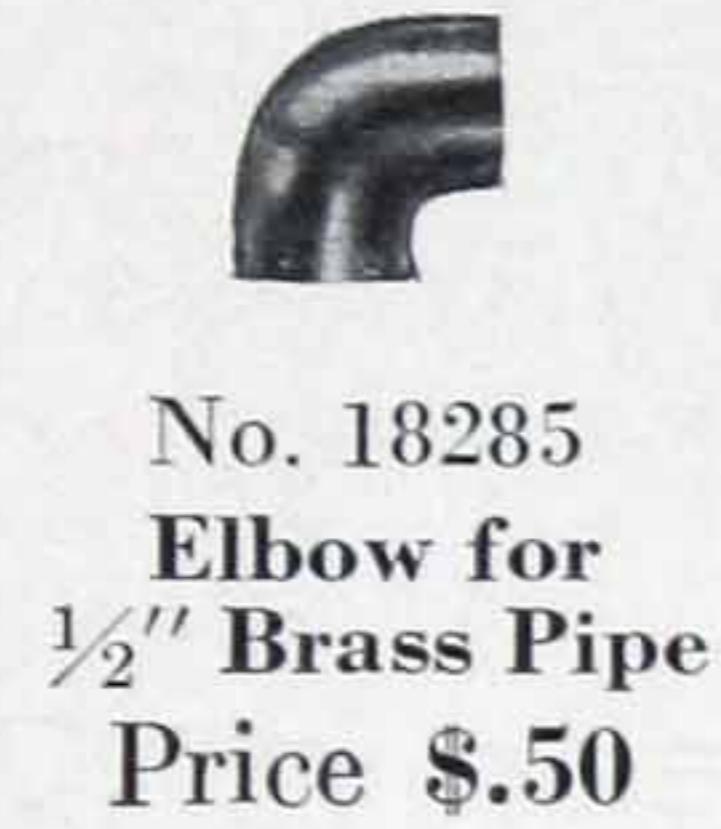
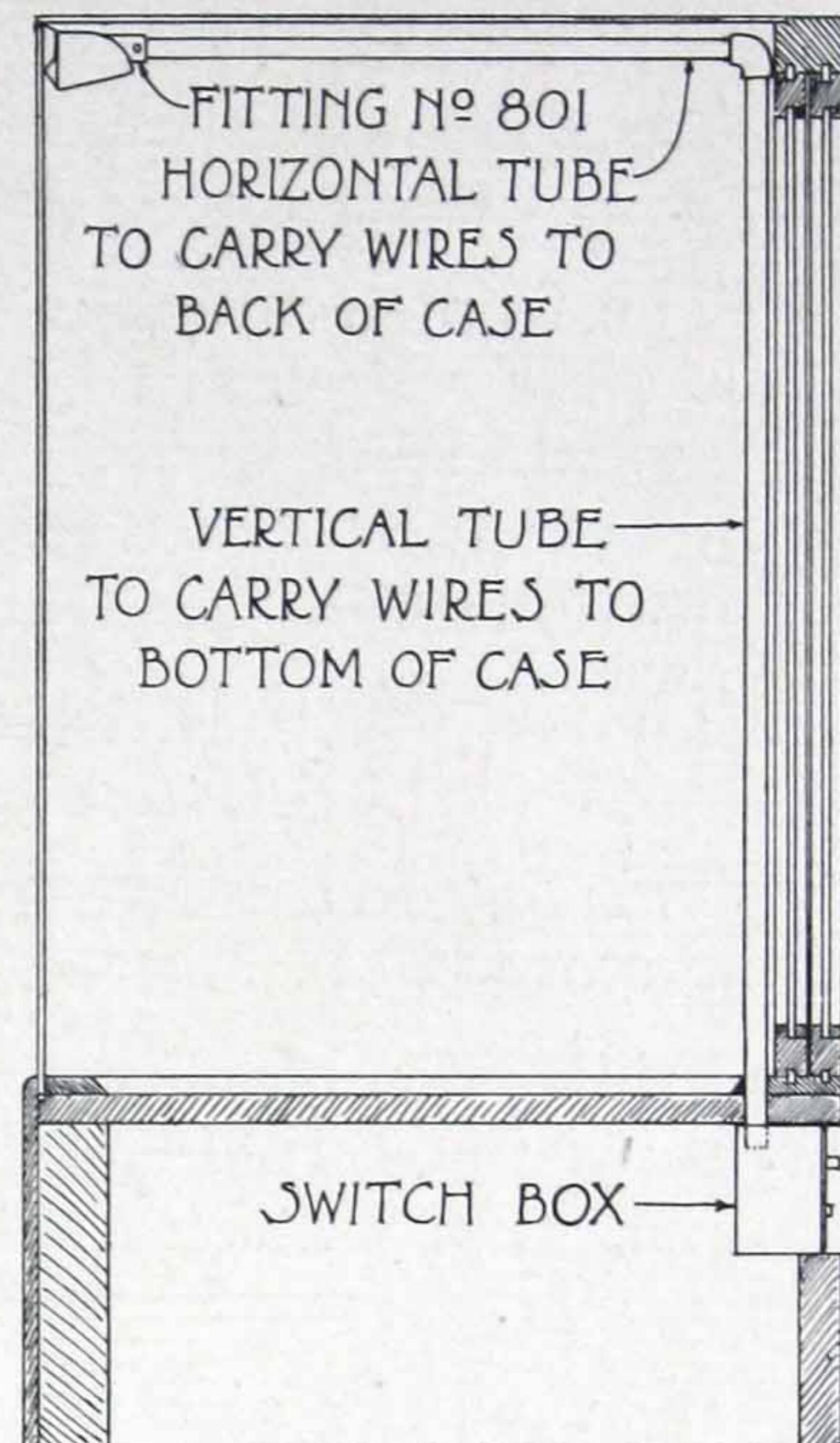
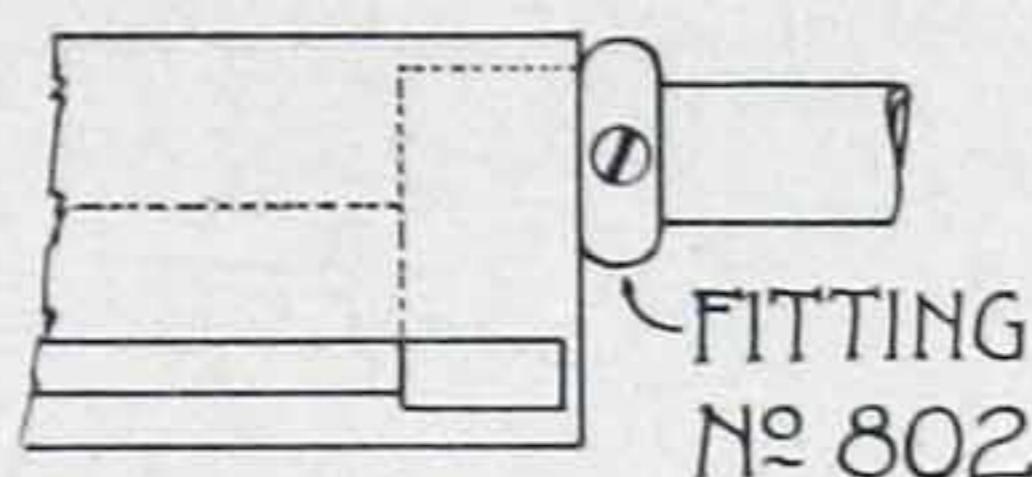
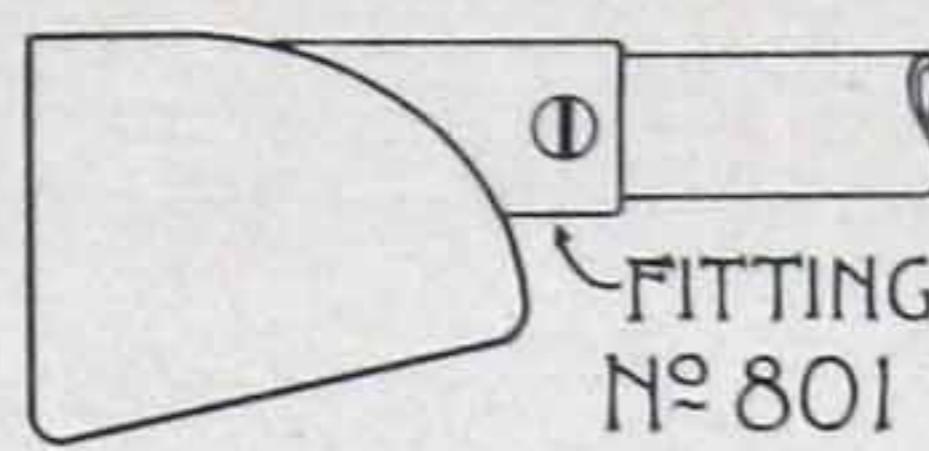
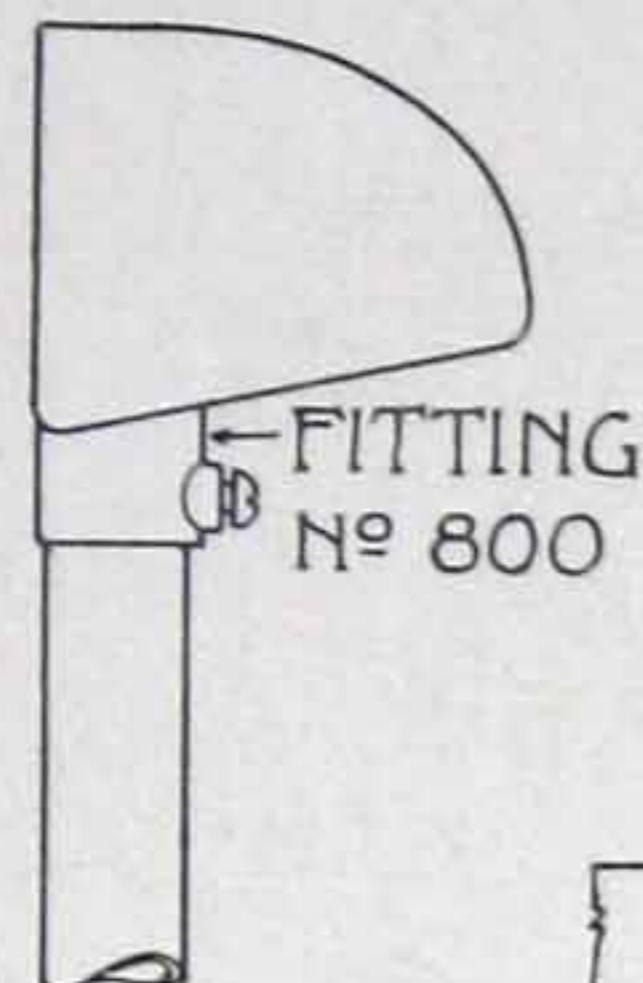
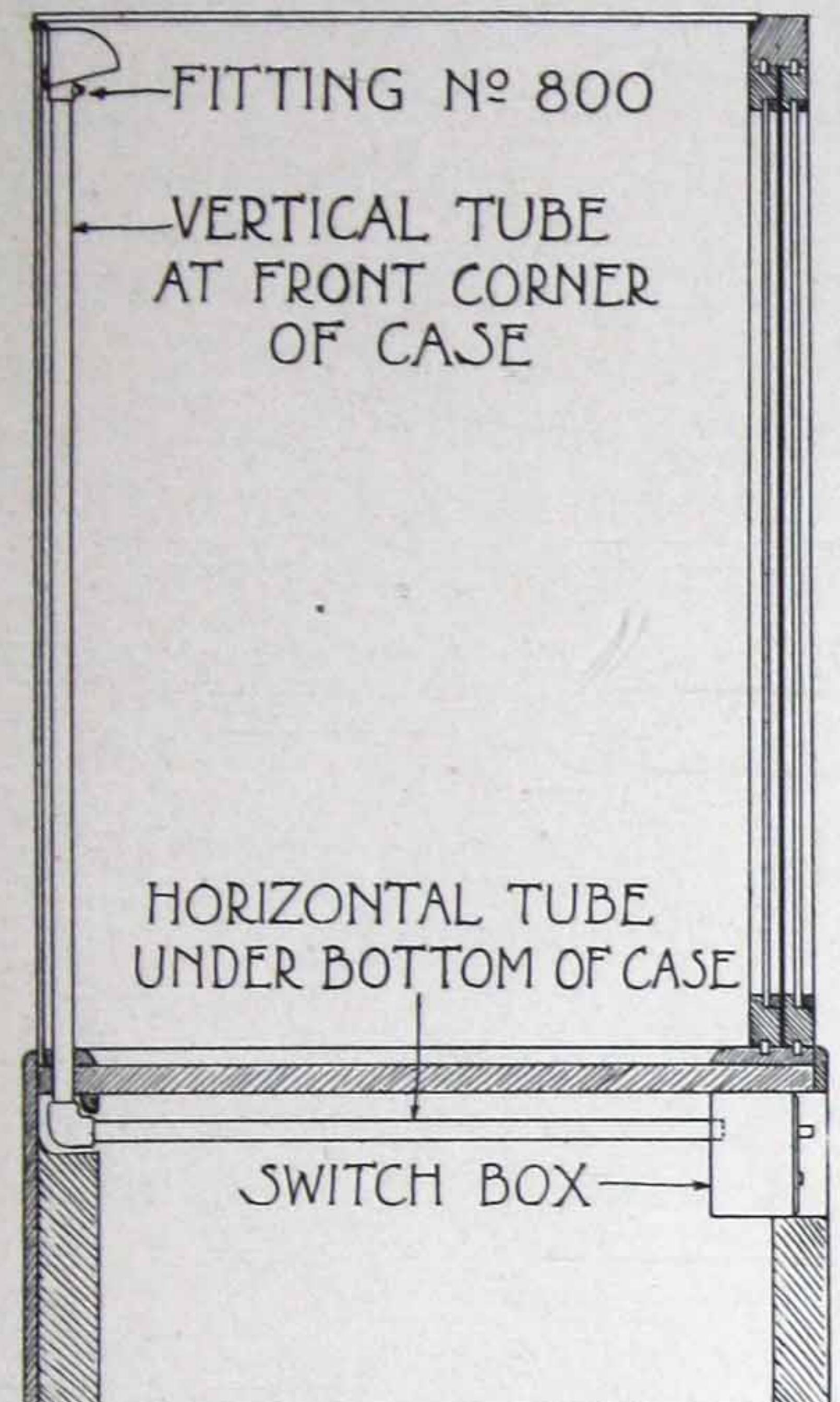
PRICE IN BRONZE OR BRASS . . . . .	\$30.00
STEEL, GRAINED FINISH 20.00	

Standard length 15 inches, 2-light for standard base 25-Watt tubular lamps

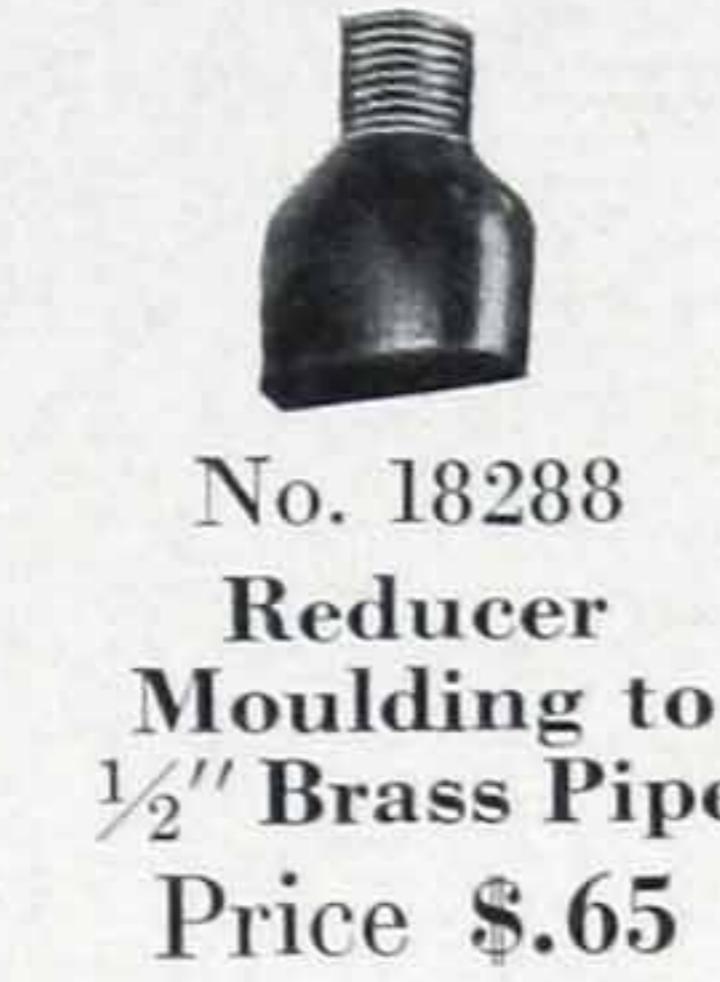
# Frink Fittings for Counter Case Reflectors

Complete fitting equipment No. 800 or 801 including vertical and horizontal tubes for carrying feed wire to switch box. Finished nickel plate. Price **\$4.50** per set.

No. 802 for connecting reflector sections around bar or moulding that interferes with a continuous run, including end box in reflectors for splice connections **\$2.25**.



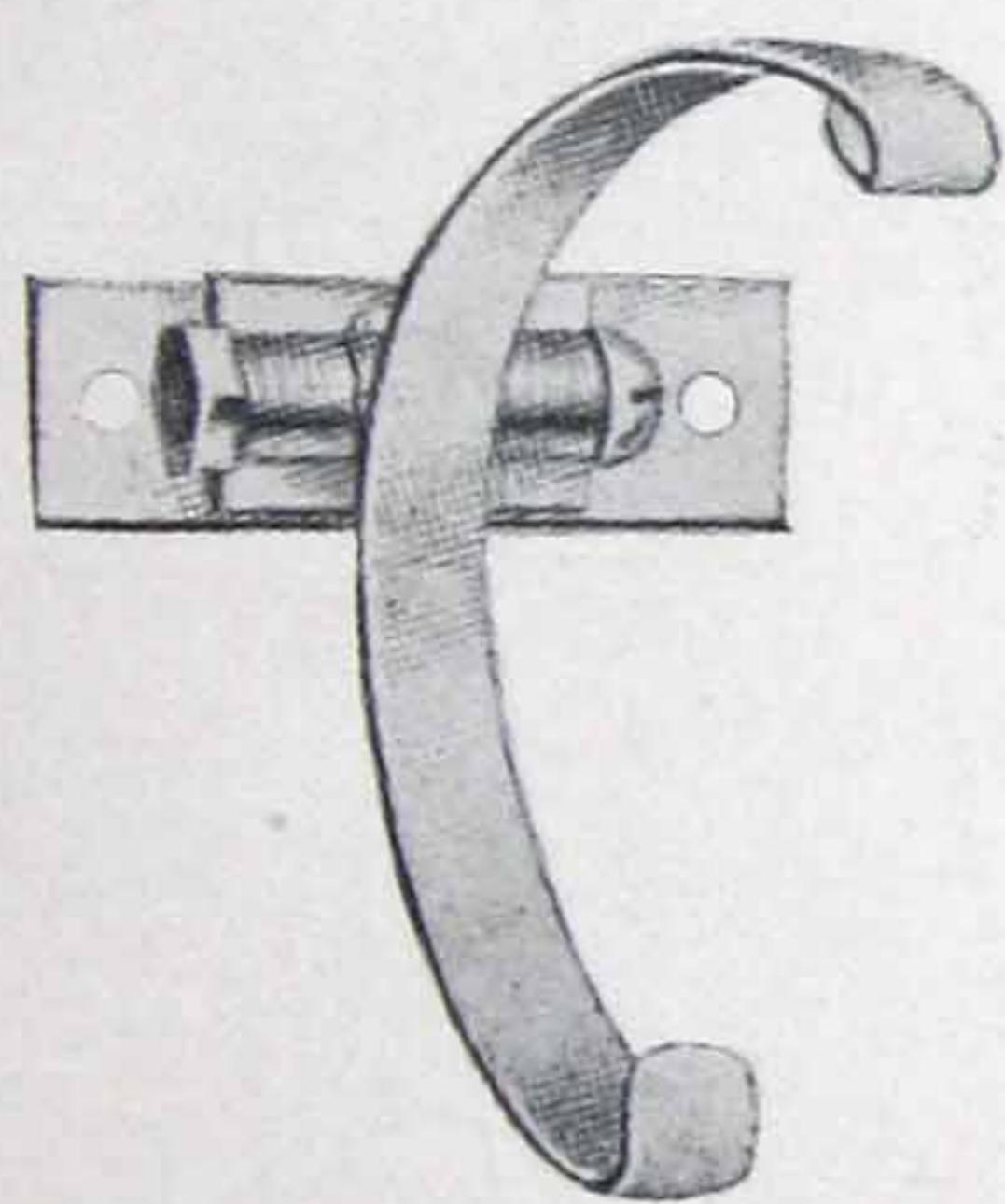
No. 18285  
Elbow for  
1/2" Brass Pipe  
Price **\$ .50**



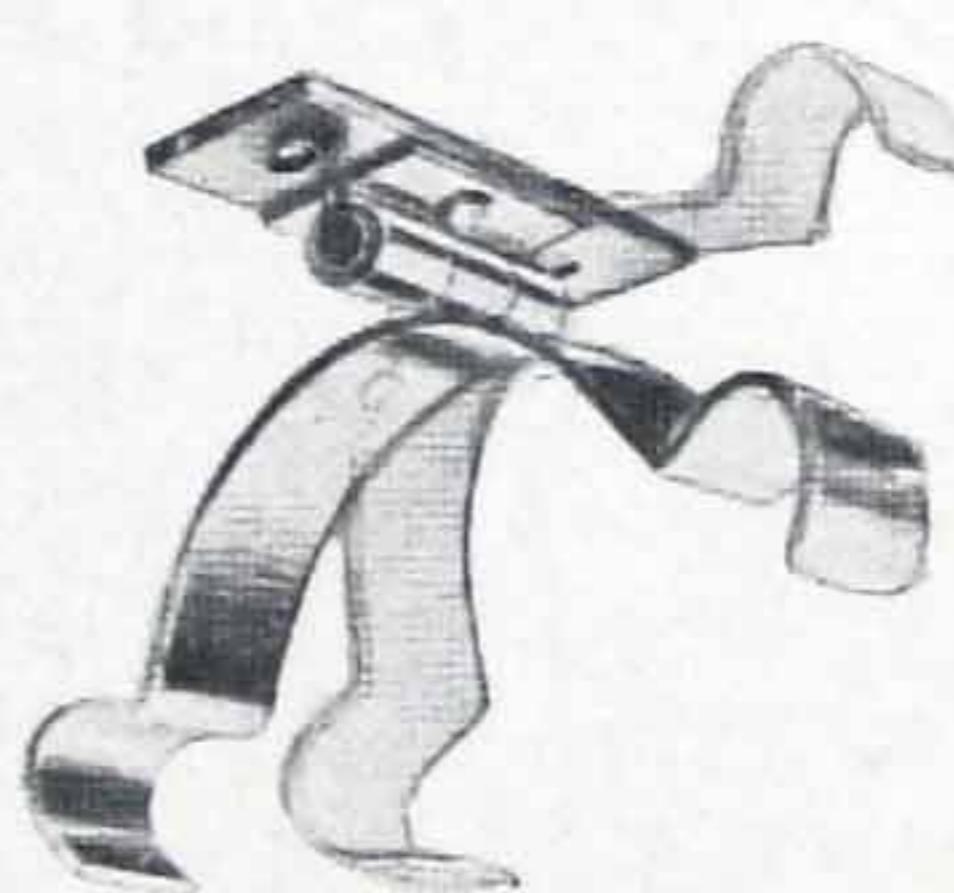
No. 18288  
Reducer  
Moulding to  
1/2" Brass Pipe  
Price **\$ .65**



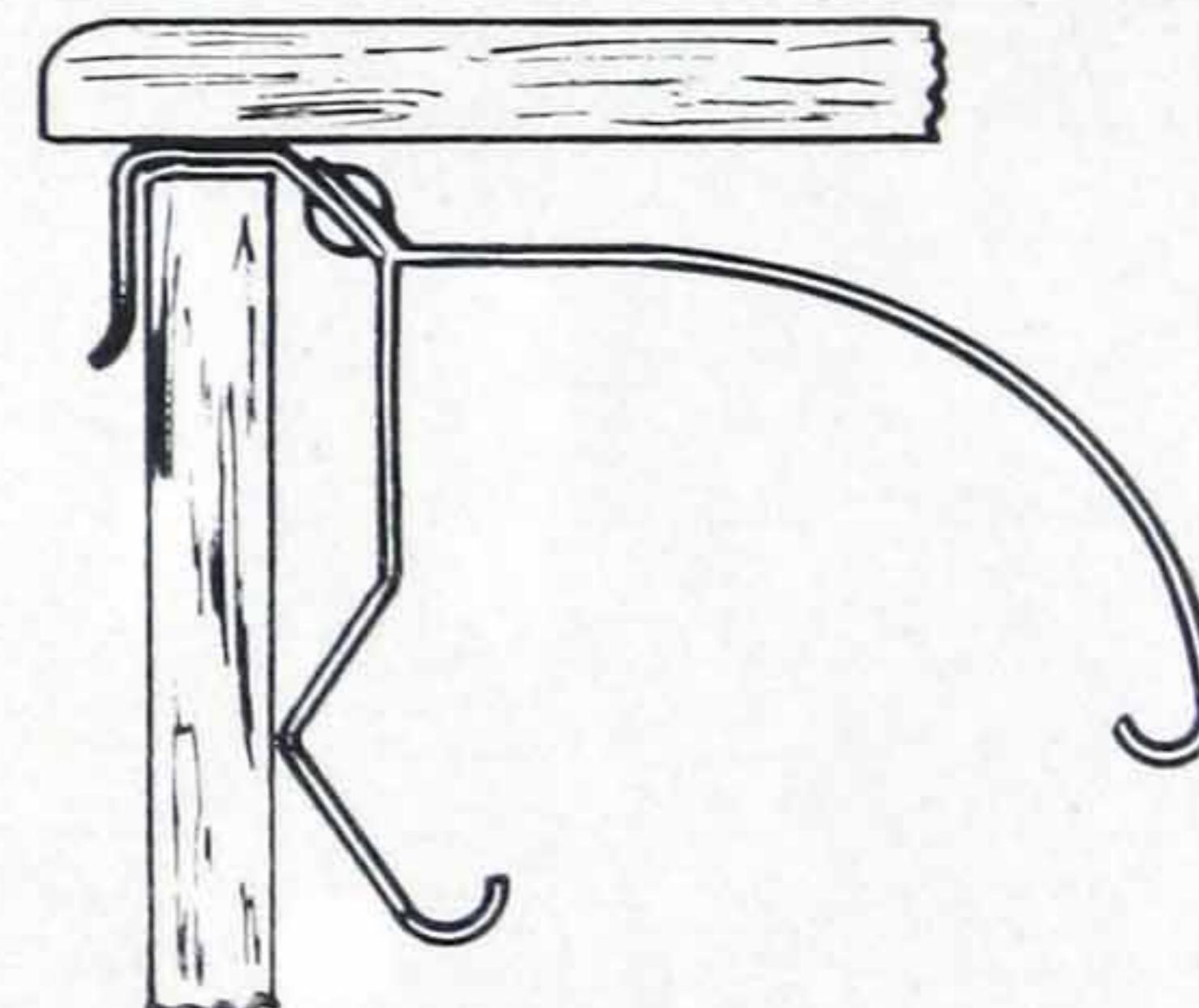
No. 18290  
End Cap for  
Metal Moulding  
Price **\$ .45**



No. 18603  
Adjustable holder for  
Reflector No. 18370  
Price **\$ .85**



No. 18600  
Adjustable holder for  
Reflector No. 1673  
Price **\$ .85**

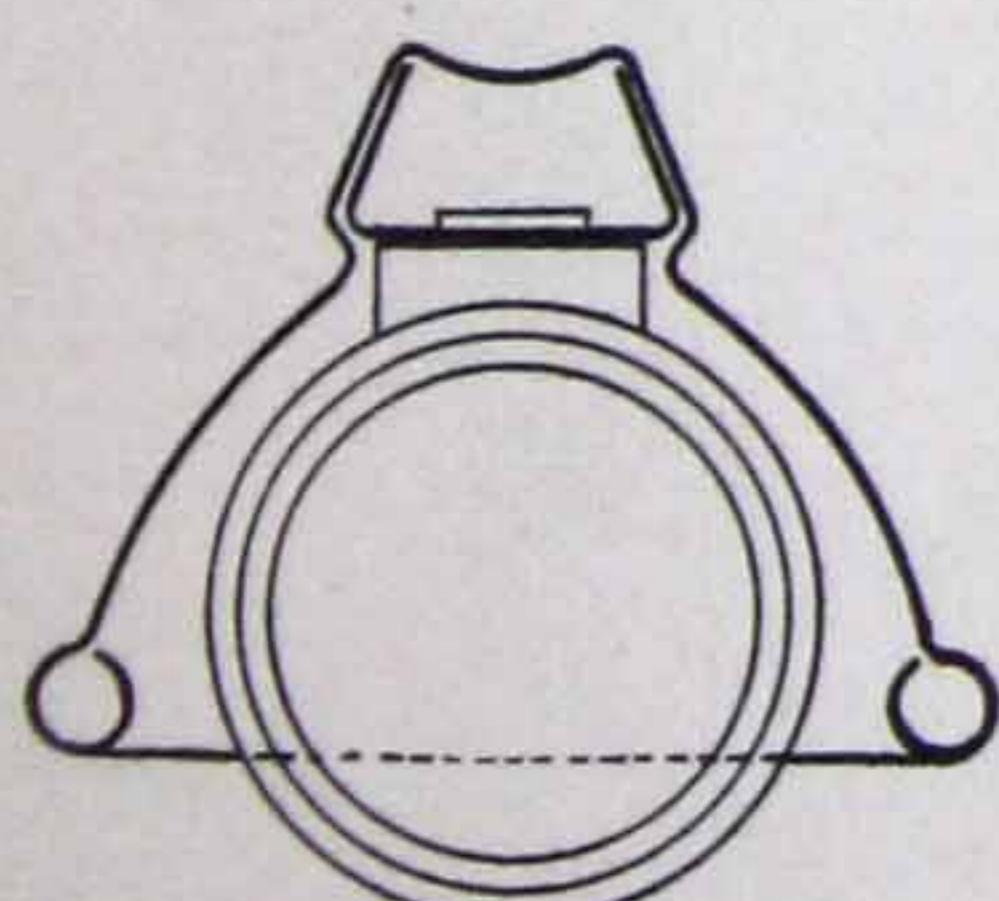


No. 535  
Holder for reflector No. 511  
for all-glass cases.  
Price **\$ .85**

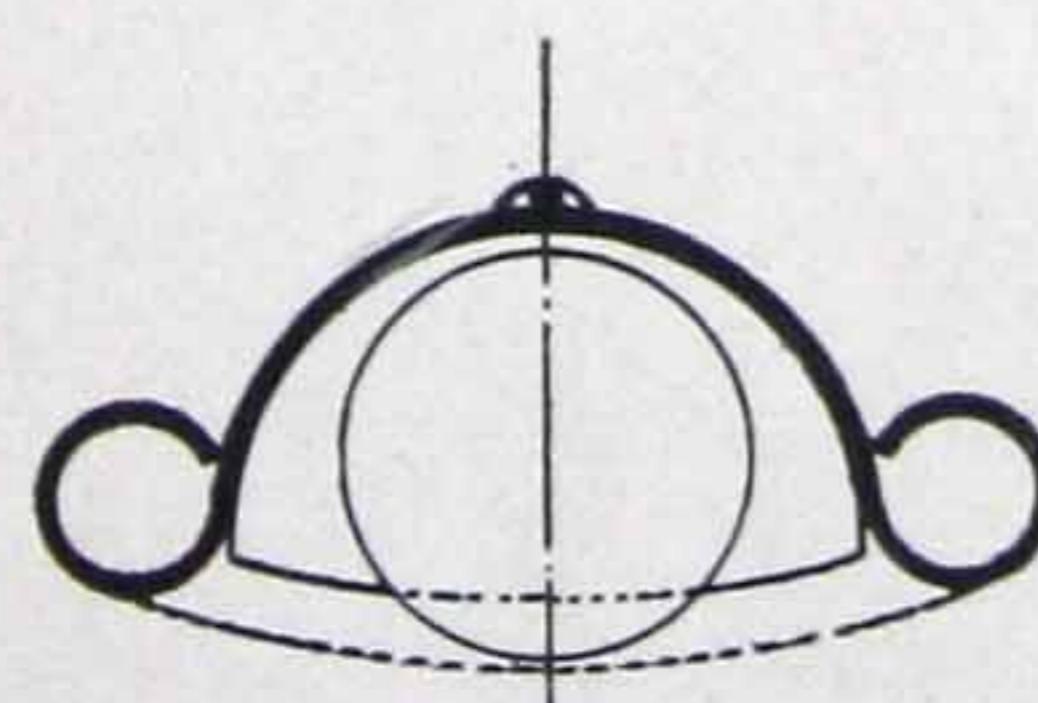
## Special Reflectors

SECTIONS  $\frac{1}{2}$  FULL SIZE

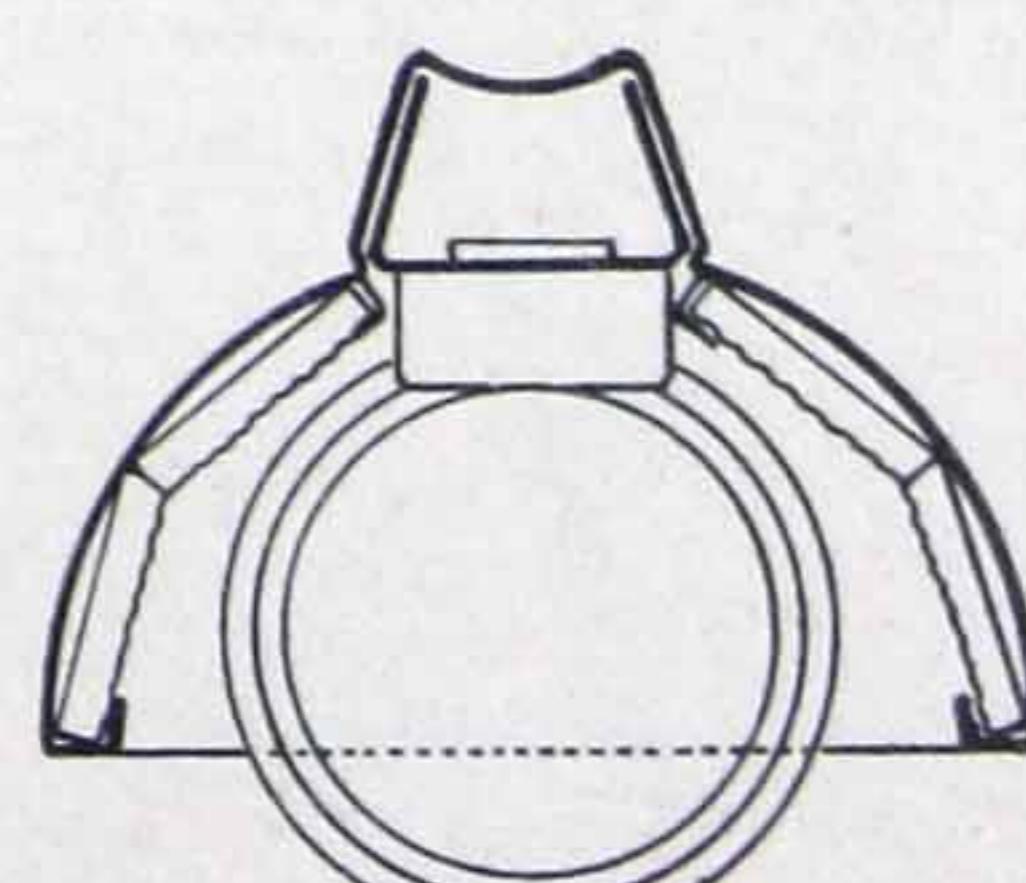
Made continuous for *Linolite* or standard base tubular lamps.



No. 18594  
Brass nickel plated.  
Price **\$3.75**



No. 1673  
Aluminum  
Price **\$3.50**



No. 18593  
Brass glass lined  
Price **\$4.00**

# Frink Direct-Indirect Reflecting Electroliers

These electroliers are a combination of efficiency, art and science—the latest development in really scientific lighting fixtures. In competitive tests they have proven more efficient than either direct lighting or wholly indirect lighting, and have the advantage, when properly spaced, of throwing a practically uniform light on the working area, yet sufficient shadow is obtained to bring out the details of the display without sharp contrast.

The color values obtained with these fixtures are equal to the best results from Mazda lamps. In using this system it is best to finish the ceiling either white or a light tone.

The framework of these Electroliers conceals powerful, correctly designed silvered ripple glass reflectors which distribute the light evenly over the ceiling. There are no glaring light spots directly above. Sufficient light is forced through the translucent bowl at the bottom to give a soft, evenly diffused light, and by revealing the light source, that hollow, unnatural appearance of rooms lighted with indirect light only, is eliminated.

The glare is thus reduced to a minimum and the ability to distinguish details is increased, also satisfactory illumination can be obtained with less current.

This fixture can be hung high above the line of vision, so that an uninterrupted view of the store is obtained—an advantage both architecturally and commercially.

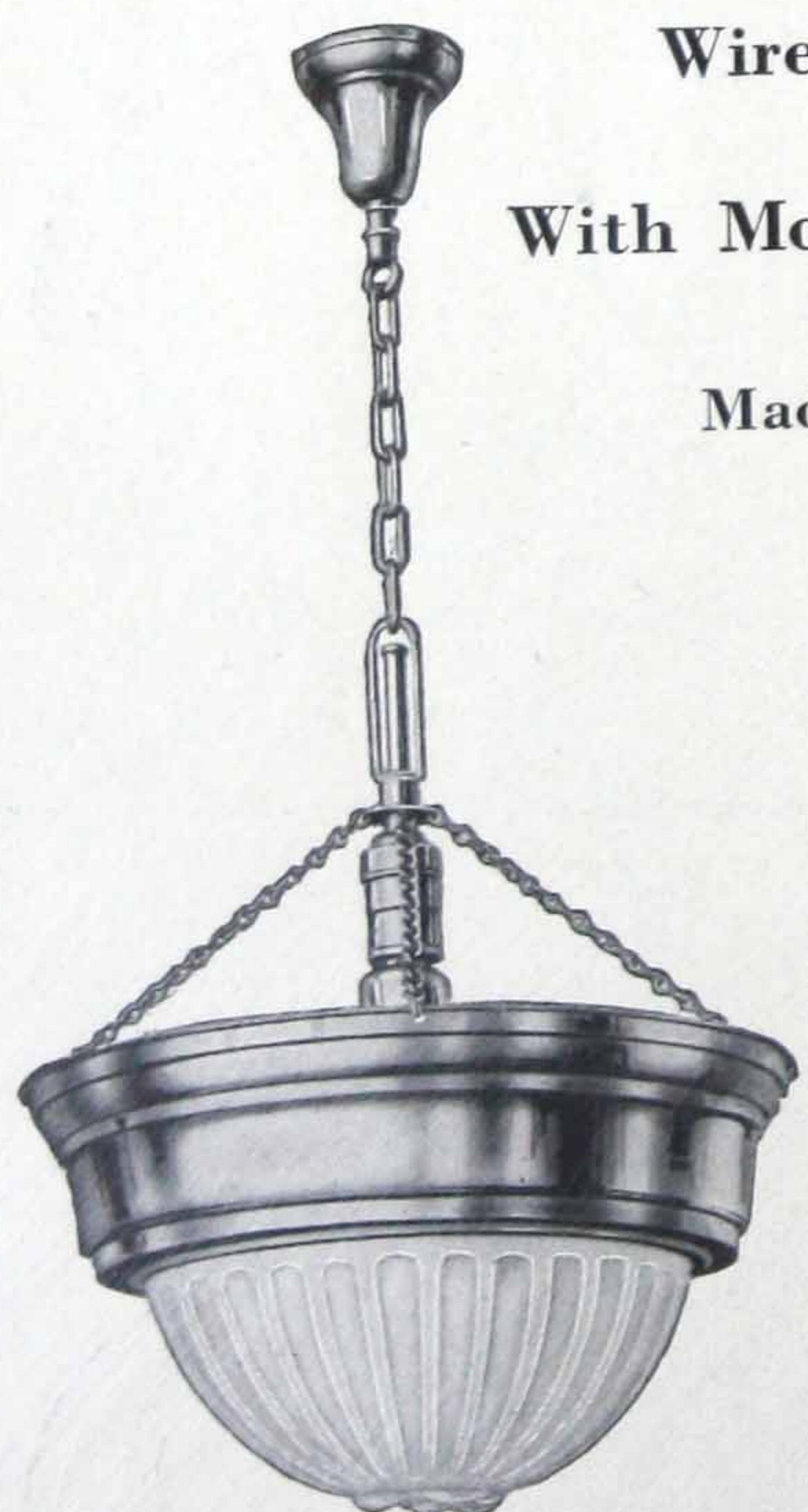
Frink Direct-Indirect Reflecting Electroliers are made in square, round or octagon shapes; plain or ornamental in design; of brass, bronze, steel, copper, armor bronze or composition, in any finish desired. Cheaper units that will give excellent results are shown on page 17.

We would be pleased to submit our recommendations with estimates upon receipt of detailed information as to color, height of ceiling, size of room and spacing of outlets, if they have already been placed. If not, we will advise regarding same.

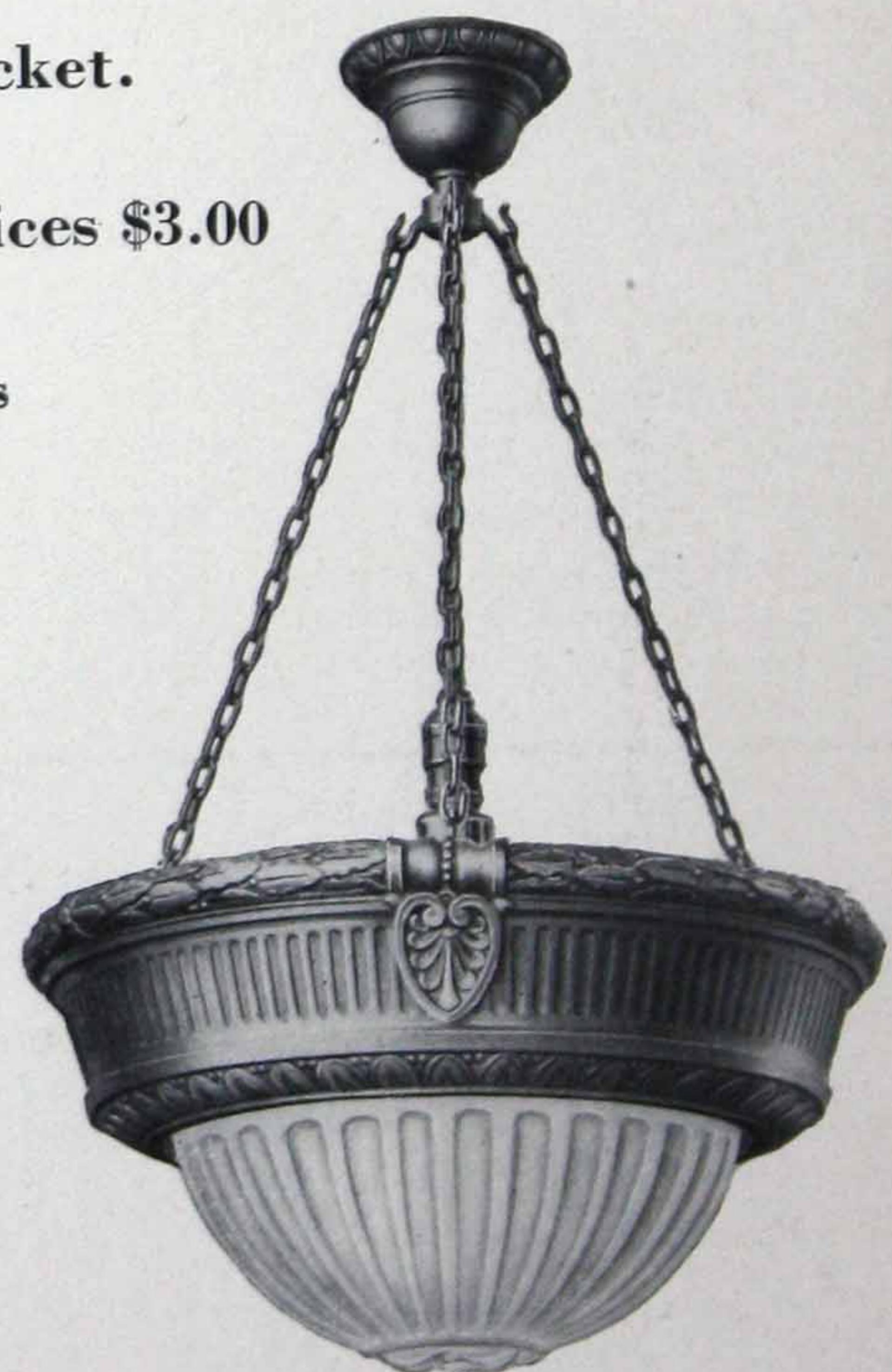
## Wired With Standard Base Socket.

With Mogul Socket Add To List Prices \$3.00

Made for 100 to 500 Watt Lamps



Price		
12" Bowl	No. 549	Brass \$26.50
14" Bowl	No. 550	" 33.00
White fire enameled frame		
14" Bowl	No. 551	23.00



14" Bowl No. 552  
Price \$33.00

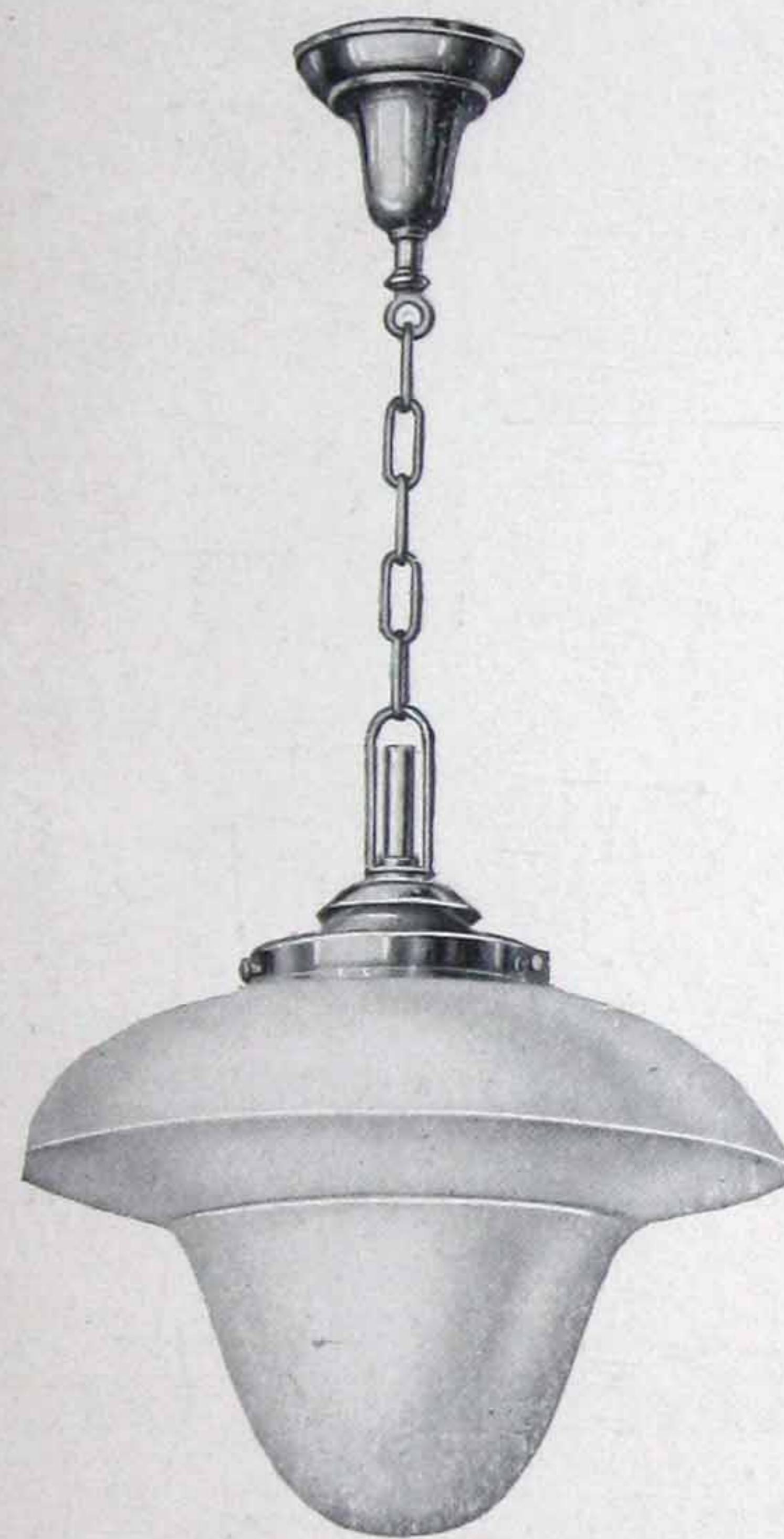
# Frinklite Electroliers

Reflector and diffuser in one piece—can be used on any ceiling—entirely enclosed.

Dust and insects cannot accumulate in bowls.

Ample ventilation, assuring maximum life for the lamp.

*High Efficiency*



*Spread*  
10" No. 541 - \$15.00  
13" No. 542 - \$20.00  
16" No. 543 - \$24.00

*No Glare*

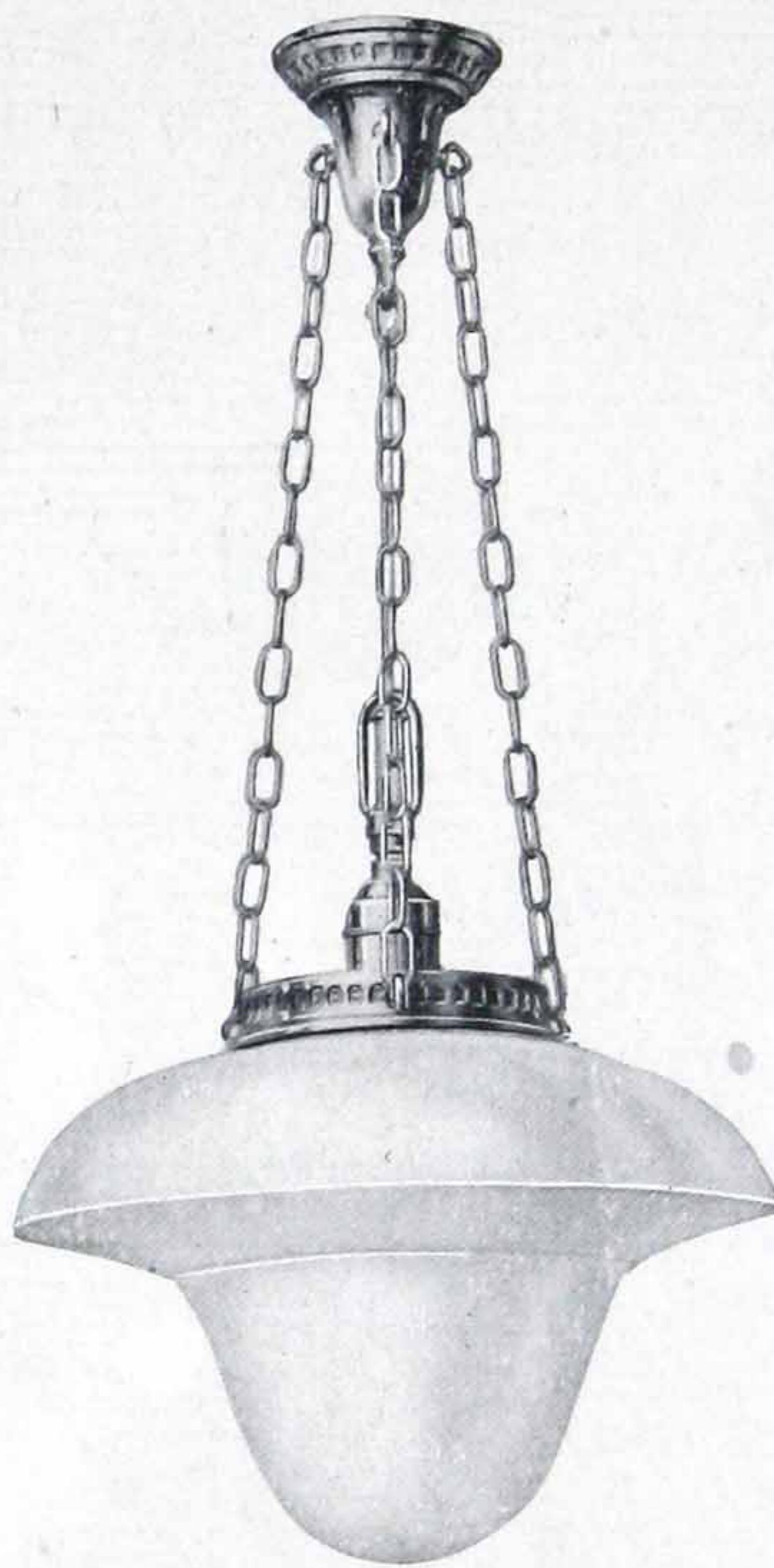
13" 100 to 300 Watt



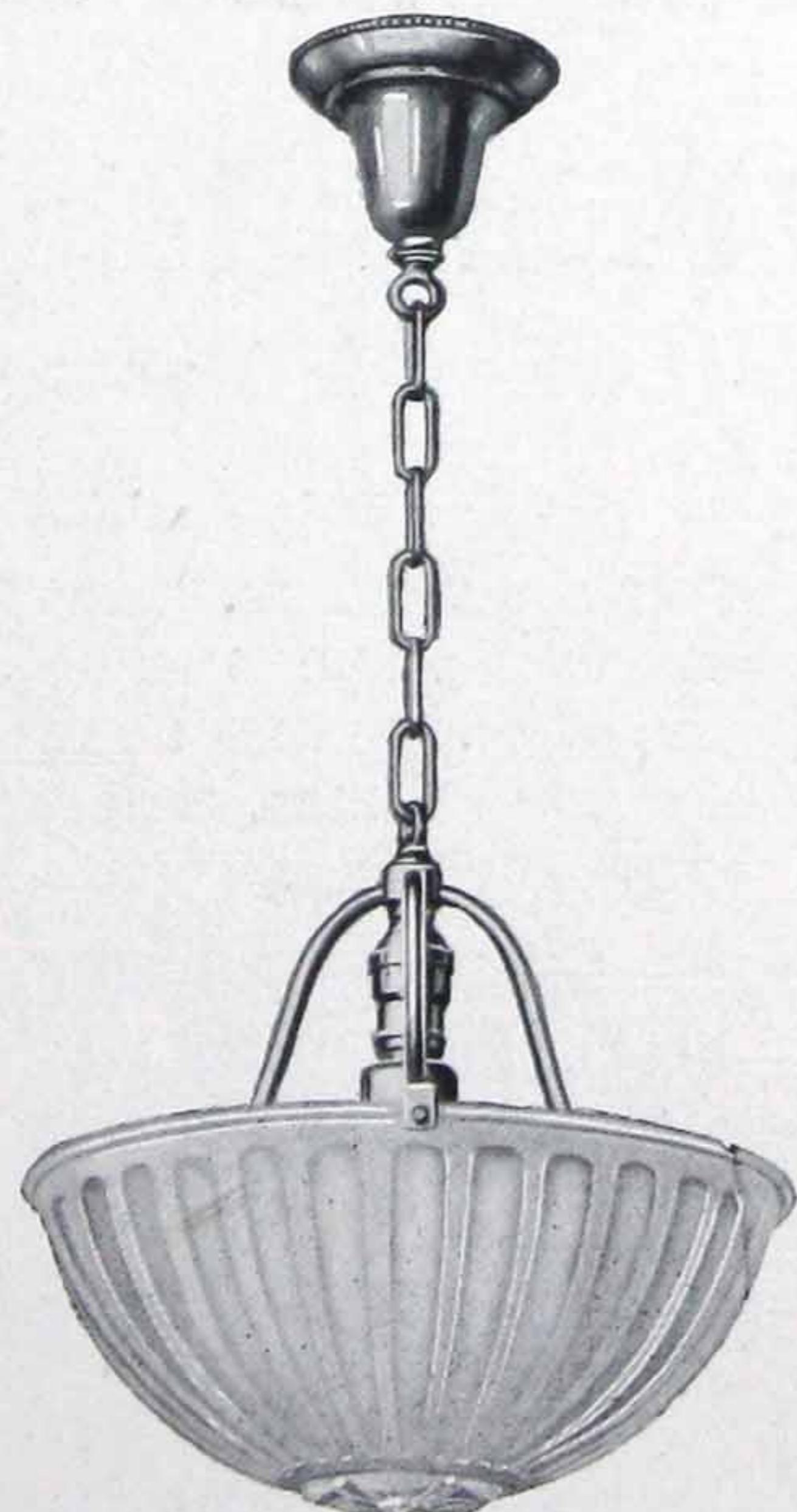
*With Plain  
Ceiling Shell*  
10" No. 538 - \$26.50 - \$24.00  
13" No. 539 - \$30.00 - \$27.50  
16" No. 540 - \$32.50 - \$30.00

*Insect Proof*

16" 200 to 500 Watt



*Spread*  
13" No. 544 - \$27.50  
16" No. 545 - \$30.00



14" Bowl No. 553

Price - \$13.50

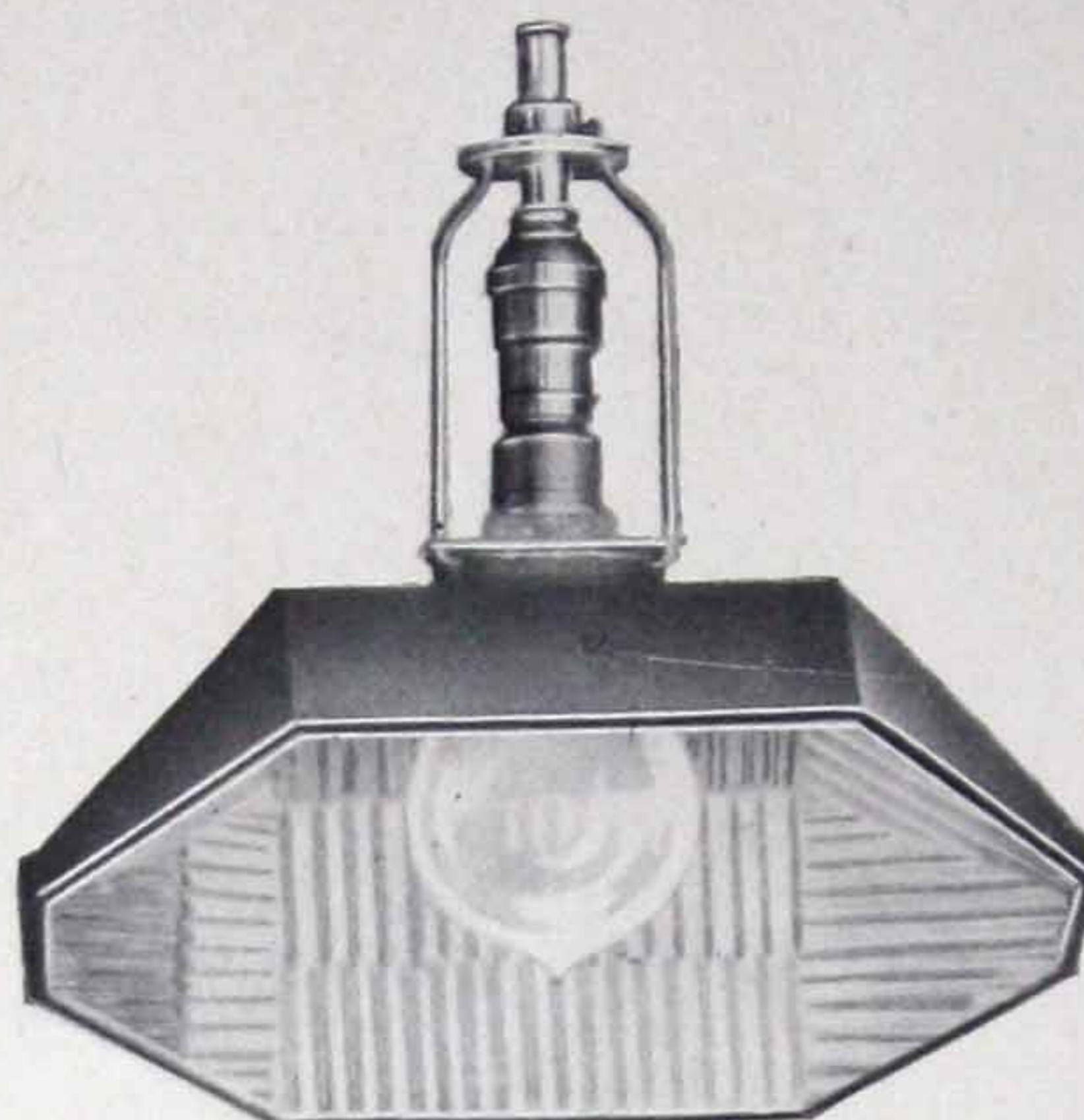
# Frink Special Reflectors

LINED WITH SILVERED RIPPLE GLASS IN SECTIONS

For  
Type C  
Lamps



Diam. 12" No. 6



Length 14" No. 8

For 75-100  
or 200 Watt  
Lamps



Diam. 12" No. 3

These Reflectors will give a strong, evenly diffused light, no shadows. They are made with strong metal frame, lined with our special silver-plated corrugated glass in sections—no breakage from expansion or contraction. 75-100 or 200 watt lamps can be used.

**METAL PROTECTION.** Silvering cannot be scratched. Glass broken by accident can be easily replaced. **ADJUSTABLE.** Can be attached to window frame or ceiling with flexible cord feed or direct to moulding, conduit, or condulet. No exposed wiring.



No. X

Special adjustable fitting for connecting direct to conduit, condulet, or junction box.



No. Y

Special adjustable fitting for connecting direct to moulding. May also be used on window frame or ceiling with flexible cord feed.



No. Z

Special adjustable fitting for stem. Any of these fittings will be furnished with Nos. 6-8 or 3.

## PRICES With Fittings

X, Y, or Z

Without Fittings— $3\frac{1}{4}$ " Holder

No. 6, \$5.25

4.50

No. 8, \$10.35

9.60

No. 3, \$9.60 Wired with Socket  
Comp. except Lamp

8.85 No Socket



## Frink High Efficiency Unit For Factories, Store Rooms, Etc.

Where it is desired to obtain full value of the lamp, spread over a wide area, these reflectors will prove more efficient than any unit on the market. They should be hung well above the line of vision and be equipped with lamps having *frosted bottom*. For low ceilings, reflector can be supplied with canopy to fasten close to ceiling.

**METAL PROTECTION:** Framework of heavy gauge metal, lined with our special silvered ripple glass in sections. Silvering cannot be scratched. Glass broken by accident can be easily replaced. **STANDARD FINISH, GREEN.** LENGTH 18".

## PRICES

Spread	Lamps
14"	No. 533 For 75 or 100 watt.....
16"	No. 534 For 100 to 200 watt.....
18"	No. 536 For 100 to 300 watt.....
20"	No. 537 For 100 to 400 watt.....

Chain Hanger	Stem Hanger
\$10.00	\$9.00
11.00	10.00
12.00	11.00
13.00	12.00

With Canopy to fasten close to ceiling, same price as Stem Hanger

# Frink Linolite Lamps



The Frink Linolite Lamp referred to in the foregoing pages has many advantages over the standard screw base tubular lamp commonly used. It consists of a glass tube one inch in diameter and eleven and seven thirty-second inches long. Special Sockets of extremely simple design are provided for the lamp which has a single contact at each end. The filament extends the entire length of the tube—through the center. When placed end to end "Frink Linolite" forms a continuous "line of light."

The Frink Linolite Lamp when used with properly designed reflectors permits perfect control of the light. The filament being a line source of light paralleling the panels of the reflector enables us to confine the light to certain areas or distribute it with equal intensity over a definite surface.

The fine quality Mazda filament is terminated in the end caps forming the contacts. Spring supports are provided within the tube to retain the filament in a central position and prevent injurious sagging. The glass area of the lamp is 31 square inches, nearly twice that of the ordinary tubular lamp and about 20 per cent. more than the usual bulb lamps of equal candle-power. This additional area reduces the effects of natural deposits and enhances the useful life of the lamp.

The special sockets for use with this lamp are of one piece porcelain and involve only one movable part. No live parts of either lamp or socket are exposed to endanger accidental contact or possible short circuits. This socket is smaller than the lamp diameter, and in this respect has an advantage possessed by no other similar device. This permits the designing of efficient reflectors of smaller size than is possible with the ordinary tubular lamp with screw base.

Frink Linolite Lamps are made in three sizes: 25 watt—20 C-P and 35 watt—28 C-P series burning; 25 watt—20 C-P and 40 watt—30 C-P multiple burning. The series lamps operate four in series and are made for 25 to 32 volts for operation on circuits from 100 to 128 volts. The multiple lamp is made for various voltages between 105 and 130. The average useful life of all Frink Linolite lamps is well over one thousand hours.

## Prices

Multiple burning Mazda, 25-watt, 107-130 volts.....	\$2.25
"      "      "      40-watt, 107-130 volts.....	2.25
Series burning Mazda,   25-watt, 26- 32 volts.....	2.25
"      "      "      35-watt, 26- 32 volts.....	2.25

Standard Package Quantity—48 lamps.

# FRINK POLARALITE SIGNS

Trade Mark Reg.

## DESCRIPTION

FRINK POLARALITE SIGNS consist of a heavy sheet of plate glass into which the lettering or design is deeply sandblasted. An entirely new departure in construction, so different from ordinary signs that it at once attracts attention by its striking and forceful appeal.

The source of illumination is entirely hidden. The light enters the plate through the edge. The plate appears dead except where the blasting occurs, giving a surprisingly beautiful and original effect.

It is artistic, economical and durable; there is nothing to deteriorate or wear out. For all places where an ornate and effective sign is demanded, such as Banks, Libraries, Hotels, Stores and Public Buildings generally, the Polaralite Sign has no equal.

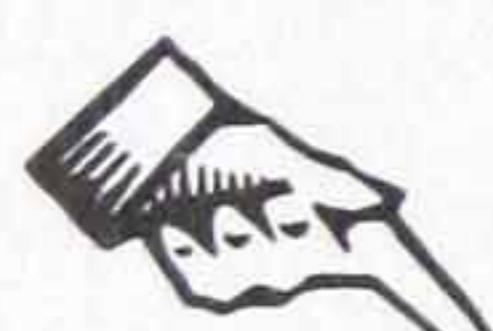
The examples shown are merely suggestions; there is practically no limit to the variety of designs which can be carried out in these signs. We shall be glad to submit sketches and full information on request and co-operate in carrying out the ideas of any prospective buyer.

FRINK POLARALITE SIGNS ARE PROTECTED BY U. S. PATENTS ISSUED

SEPT. 25, 1906—AUGUST 18, 1914

JULY 13, 1915—JULY 27, 1915

OTHER PATENTS PENDING

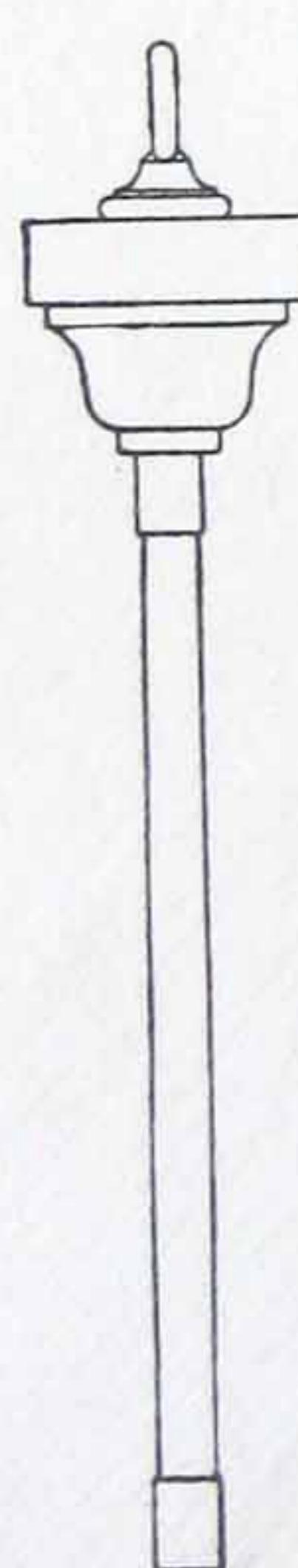


*Information required in order to quote prices:*

TYPE OF SIGN DESIRED—APPROXIMATE SIZE

TO READ FROM ONE OR BOTH SIDES—READING MATTER

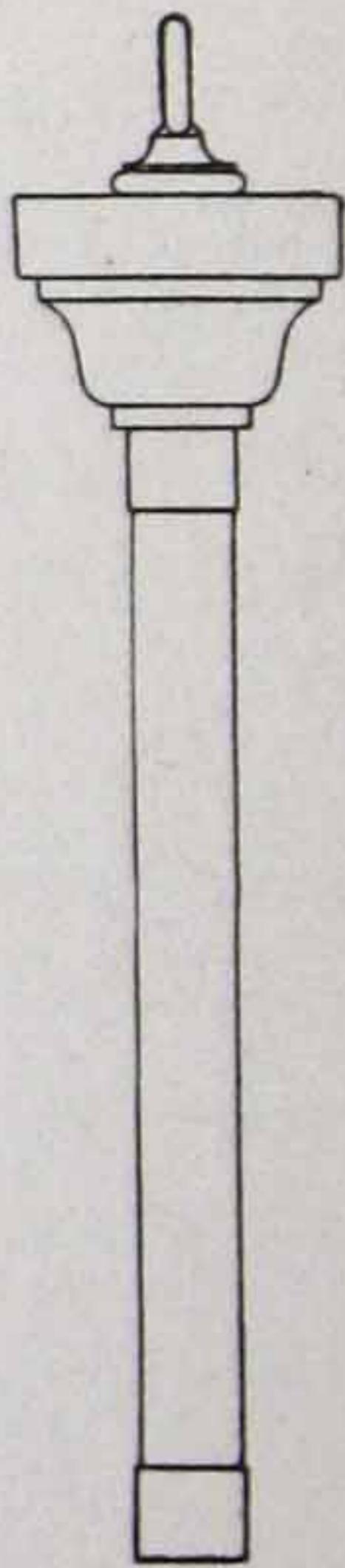
WHAT FINISH FOR METAL PARTS



Single Face  
End View  
 $\frac{1}{4}$  Full Size



No. 19419



Double Face  
End View  
 $\frac{1}{4}$  Full Size

*If specially interested in signs send for Circular No. 62*

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CCA



*"The Sign of Quality"*